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TECHNICAL EFFICIENCY AND ITS DETERMINANTS AT DIFFERENT LEVELS OF INTENSIFICATION AMONG MAIZE-BASED FARMING HOUSEHOLDS IN SOUTHERN GUINEA SAVANNA OF NIGERIA

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Abstract

Examining the level of farm-specific technical efficiency of maize-based farming households in Southern-Guinea Savanna (SGS) of Nigeria, this study fitted cross-sectional data into a Cobb-Douglass production frontier. The study examined technical efficiency and its determinants among maize-based farming households at different levels of cropping intensification in the SGS of Nigeria. Data used for this study were obtained using structured questionnaire administered to 252 randomly selected maize-based farming households. Descriptive analysis, crop intensity index and the stochastic frontier production function methodology was used to achieve the research objectives. The study concludes that maize-based households can be grouped into high and low intensity farming households and are technically inefficient. The high intensity farming households are more technically efficient (78.2.4%) than those of low intensity households (30.1%). The main determinants of technical efficiency among the low intensity households are farm size, farming experience and access to credit. On the other hand, farm size and access to credits are the most important factors among the high intensity farming households. Providing farming households with both formal and informal credits will be a useful investment and a good mechanism for improving efficiency in maize-based farming. Policies that would make more lands available for the high intensity farming households must also be encouraged.

Keywords*: Crop production intensification, technical efficiency and maize-based farming households*

Introduction

The global food crisis is increasing with alarming speed and force, necessitating nations and international organizations all over the globe to respond with a strategic and long term approaches aimed at curbing the food crisis. The current crisis is caused by a web of interconnected forces involving agriculture, energy, climate change, trade, and new market demands from emerging markets (CSIS, 2008). These have grave implications for economic growth and development, international security, and social progress in developing countries. Although, Nigeria heavily depends on oil revenue, the role of agriculture on economic growth in Nigeria cannot be overemphasized. A sectoral analysis in 2008 of the real GDP indicated that the agricultural sector contributed about 42 percent of the GDP, with crop, livestock, forestry and fishery accounting for 37.52, 2.65, 1.37, and 0.53 percent respectively (Adegboye,2004; CBN 2008). This implies that the crop sub-sector contributed 89.2 percent of agriculture GDP.

Maize, one of the major staples in Nigeria, is one of the vital concerns to agricultural policy decisions. Current maize production is about 8 million tonnes and its average yield is 1.5 tonnes per hectare. The average yield is lower compared to the world average of 4.3 tonnes/ha and to that from other African countries such as South Africa with 2.5 tonnes/ha (FAO, 2009). There has been a growing gap between the demand for maize and its supply. The stronger force of demand

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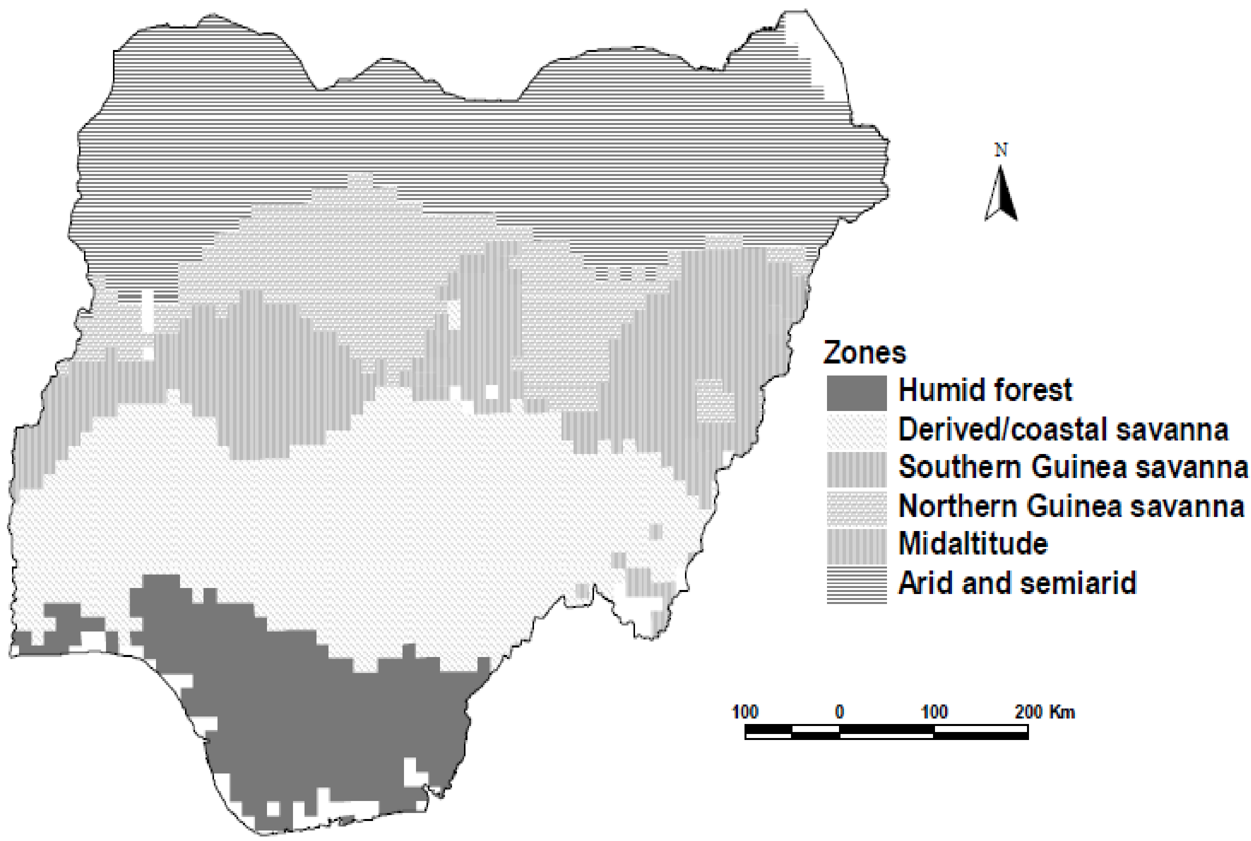
for maize relative to supply is evidenced in frequent rise in price of maize and therefore, has great implication for the food security status and economic development of the Nigerian economy. It is reported that among other causes of the food crisis, gross underinvestment in agricultural production and technology in the developing countries has contributed to static productivity, weak markets, and underdeveloped rural infrastructure (CSIS, 2008). There are fears that this may have compelled farmers to practice unsustainable intensification. To stem the tide of the current food problem through crop production intensification which according to Tiffen et al., (1994); is the use of increased average inputs on smallholding for the purpose of increasing the value of output per hectare. The Federal Government of Nigeria in 2006 initiated a programme of doubling maize production in Nigeria through promotion of improved production technologies such as fertilizer, hybrid seeds, pesticides, herbicides and better management practices. Since then, several stakeholders have alleged their support for this program. Several improved maize varieties, drought tolerant, low nitrogen-tolerant, Striga-tolerant, stem borer resistant and early maturing, have been deployed to address the challenge faced by resource-poor farmers in maize production. Despite these efforts, maize productivity remained low thus raising question about the efficiency with which resources are used by these farming households. More importantly, for a justification of further investment in agricultural production and technology development in general and maize in particular, there is a need to assess the technical efficiency of maize-based farming households at different levels of crop production intensification in the zone.



Methodology

Study Area

The Southern Guinea Savanna ecological zone of Nigeria located at longitude 38^o 148^o E and latitude 78^o and 108^o N is the study area. The savanna ecology can well be called the Corn Belt of Nigeria. The zone represents a geographical area that is majorly made up of Kwara, Niger, Kogi, Taraba, Plateau and Benue States. The Southern Guinea Savanna of Nigeria has great potential for the expansion of maize production beyond the present level due to its bimodal rainfall pattern, (a short early growing season followed by fairly long late season) high solar radiation and favorable temperature during the growing season. However, the zone is characterized by variable weather, fragile soils with low moisture holding capacity that is prone to drought (Fakorede *et. al.,* 2001). The soils are also mainly alfisols that are low in organic matter, especially nitrogen which is one of the most essential units for maize growth and productivity. Thus, the region offers a lot of potential for intensification with a view to bringing about much required growth in the maize sub-sector of the Nigerian economy.

Sampling Procedure and Sample Size

A three-stage sampling technique was used to select sample for the study. The first stage involved a purposive selection of Kwara and Niger States. The two states have the list number of crop farmers in the zone in the year 2007 (NBS, 2008). The ADPs zones are four and three in Kwara and Niger states respectively. The second stage involved the random selection of 4 villages from each of the ADPs zone in each of the states. The upgraded 2001 Agricultural Development Projects (ADPs) village listing served as the sampling frame for the selections in the two states. In each village, 10 farming households were selected among the farming households in the areas to make up a sample size of 280. However, only 252 questionnaires were retrieved and analyzed.

Analytical Techniques

Descriptive and inferential statistics, crop intensity index, and Cobb–Douglas stochastic production frontier model were the analytical tools employed to achieve the research objectives. Using Shriar, (2005) intensification index, intensification activities such as intercropping, use of legume, use of fertilizer, pesticides use per hectare, use of herbicides, ploughing methods, use of organic fertilizer and improved seeds have been assigned a particular weight based on its contribution to production intensity. These led to weight values ranging from 2 to 3.5 points (Table 1).

As evident from the Table 1, not all farming activities could be assessed in sufficient detail to justify using a 0-3 scaling and that the maximum points attainable by the household from all the intensification activities is 60. The index is stated as:

$$CI_i=\sum_{J=1}^{8} S_j W_j \qquad i = 1\ldots N \text{ ------ } (1)$$

Where

CI is the crop intensification index for the ith household; S is the scale range for the agro-technology and strategy employed by the ith household and W is the weight of the agro-technology and strategy employed by the ith household.

Cobb–Douglas stochastic production frontier approach was used to estimate the production function and the determinants of technical efficiency among smallholder maize-based farming household. Given the potential estimation biases of the two-step procedure for estimating technical efficiency scores and analysing their determinants, the one-stage procedure is adopted following Battese and Coelli (1995). Although this approach has its own limitations, it remains one of the popular production functions in production frontier studies. The following model is estimated on the basis of the Battese and Coelli (1995) procedure:

$$Yi = Xi\beta + (Vi - Ui),\ i = 1, N, \text{---------} (1)$$

Where Y_i is the output of maize crop in grain equivalent. Xi is a k x 1 vector of input quantities of the $_i$th household (land is measured as the total plot area cultivated in hectares; and labour is estimated as man-days worked; fertilizer is the amount of fertilizer used on the plot in kilogram; seed is the quantity of seed in kilograms, regardless of the type of maize and agrochemicals is the quantity of chemicals used in liters). β is a vector of unknown parameters to be estimated: Where Vi are random variables, two-sided ($-\infty < vi < \infty$) normally distributed random error N ~ (0,δv2), which are assumed to be independent of the Ui that captures the stochastic effects outside the farmer's control (e.g., weather, natural disasters, and luck, measurement errors in production, and other statistical noise).

The two components v and u are also assumed to be independent of each other. Thus, to estimate a Cobb-Douglas production functions, we must log all the input and output data before the data is analyzed (Coelli, 1995). The estimating equation for the stochastic function is given as:

$$\ln Y = \beta 0 + \beta 1 \ln X1 + \beta 2 \ln X2 + \beta 3 \ln X3 + \beta 4 \ln X4 + \beta 5 \ln X5 + Vi - Ui \text{ -----(2)}$$

The maximum likelihood estimation of equation yields consistent estimators for β, the variance parameters; gamma (γ), lambda (λ) and Sigma squared (δ^2).

Determinants of Technical Inefficiency

U_i =Inefficiency component of error term. It is assumed that the inefficiency effects are independently distributed and Ui truncation (at zero) of the normal distribution with means 0 and variance $\sigma^2 u$ where Ui is specified as:

$$U_i = \delta o + \delta i Z_{1i} + \delta_2 Z_{2i} + \delta_3 Z_{3i} + \delta_4 Z_{4i} + \delta_5 Z_{5i} + \delta_6 Z_{6i} + \delta_7 Z_{7i} \text{----------------------(3)}$$

Where

U_i=Technical inefficiency of maize-based farming household.

$Z_{1=}$ Farm size was measured in hectares

$Z_{2=}$ Farming Experience in years

$Z_{3=}$Household size was based on the number of direct and dependants of the household and was adjusted to adult equivalent.

$Z_{4=}$ Extension contact was based on the number of visits by the extension agent.

$Z_{5=}$Credit Access measured by a dummy. 1 if the household head has access and 0 if otherwise.

Elasticity of Production and Return to Scale Measurement

Other estimates derived from our stochastic equation (2) for maize–based farming household in the study area are elasticity of production (EOP) and return to scale (RTS). EOP is the same as the estimated coefficients of the independent variables (Kumbhakar, 1994).

$RTS = \sum EOPi$ i = ---------,n----------(4)

Inferentially, RTS < 1, decreasing return to scale

RTS > 1, increasing return to scale

Results and Discussion

Socio-economic characteristics of the Household Heads

The age of the farming households' heads ranged between 30 and 75 years with an average of 48.3 years. This has implication on the available family labour and productivity of labour (Table 1).

Sex distribution varies appreciably, 14.3% and 85.7% of the household heads were females and males respectively. The higher percentage (85.7%) of the male headed households may be due to cultural and religious belief of the people in the area, which prohibits woman to go out freely and engage in activities such as farming. Women are usually not allowed to own land and where the woman owns a land, they usually delegate its administration to their senior male child or one of their male relations.

The average household size is 11 persons in the zone. Most (69.3%) households are polygamous in nature. Polygamous nature of the people probably explains the large family size recorded in the area. Their availability reduces labour constraints faced during the peak of the farming season. Majority (76.2%) of the household heads are predominantly farmers, while others were involved in both agricultural and non-agricultural trading, business and civil service as their secondary sources of livelihood. Farming household heads (82%) are literate with most of them having primary education (32.1%) and this is closely followed by Quranic education (30.6%) Those who had tertiary education (2.8%) probably constituted the civil servant who engaged in part-time farming in the area. Given this level of literacy it is expected that information can be disseminated with ease among these households' heads. The farming households head's years of experience ranged between 5 and 45 years with an average of the average of 29.1 years. Farming households' heads experience is expected to have a considerable effect on their productive efficiency. Majority of the household heads (72.6 percent) have inherited farming business as an occupation, while the remaining was introduced to it by either friends or relations.

Levels of Crop Production Intensification among the Sampled farming households

Using Shriar (2005) crop intensification index, the crop production intensity scores among the farming households in the zone ranged between 5.5 and 38.50 with a mean score of 23.13. Using this mean value as the threshold value and as a basis for classification, the households were classified into high and low intensity categories. Majority (74.6%) of the maize-based households belong to the low intensity category (Table 2).

The Kurtosis value of -0.296 and 0.461 suggests that the variability in crop intensity from one farming household to the next is higher among low intensity households than those of high intensity households. The negative Kurtosis value (-0.296) implies greater level of inter- household variation among low intensity households in terms of the land size and cropping strategy. In contrast, high intensity households are much more homogenous from a socio-economic and farming systems stand point. For a normally distributed variable the kurtosis value equals three.

Maximum Likelihood Estimates of Low Intensity Maize-based Farming Households.

The sigma square is 0.2210 and statistically significant at 1% level of probability (Table 3). This indicates a good fit and the correctness of the specified distributed assumption of the composite error term. The gamma (γ) ratio of 0.9999 which is significant at 1% level implied that about 99.99 percent variations in the output of low intensity maize-based farming households were due to differences in their technical efficiency. The stochastic frontier production function estimates of low intensity farming households are presented in Table 3.

The coefficients of labour and fertilizer are positive and significantly related to maize output at 1% level of confidence (Table 3). This implies that a unit increase in these inputs will lead to increase in the gross output of maize. The quantity of fertilizer and labour determines the variation in maize output among low intensity farming households in the zone. The estimated elasticities of mean output with respect to fertilizer and labour are 0.7798 and 0.5707 respectively. This means that 1% increase in fertilizer increases output by 0.7798%. However, in the same vein, 1% increases in the quantity of labour used increased maize output by 0.5707%.

Determinants of Technical Inefficiency of Low Intensity Farming Households.

The coefficient of farm size is negatively and significantly related to technical efficiency at 5% level of probability. This implies that as the variable increases technical efficiency decreases among low intensity maize-based farming households. That is, the smaller the farm the easier it is for smallholder to manage well. This agrees with what Peterson (1997) found while studying the effects of farm size on efficiency in ten Corn Belt states in USA. The coefficient of farming experience is positive and significantly related to technical efficiency at 5% level of probability. This implies that as farming experience of the households' increases ceteris paribus, technical efficiency of households' increases. Credit access is also positive and significantly related to technical efficiency at 5% level of probability. This suggests that access to credit reduces technical inefficiency. Therefore, alleviating credit constraints enables households to buy needed inputs and thus decrease technical inefficiency. The coefficients of other variables (household size and extension contact) were found not important in explaining the variation in technical efficiency among low intensity maize-based farming households in the zone.

Estimated Elasticity of Inputs and Returns to Scale of Low Intensity Households

The input elasticities of production of low intensity farming households are shown in table 4. The summation of elasticities obtained indicated that the estimated return to scale is 0.9725 implying that maize is produced closed to constant returns to scale on the sampled plots among the low intensity households.

Technical Efficiency Ranges of Low Intensity Maize- Based Farming Households

The frequency distribution of technical efficiency of low intensity households is presented in table 5.

Individual technical efficiency indices range between 0.80% and 99.9% with a mean of 30.1%. The level of technical efficiency obtained in this study suggest that opportunities still exist for increasing productivity and income through increased efficiency in resource utilization by maize-based farming households in the study area. About 69.9% efficiency gap from the optimum (100%) was yet to be attained by all the low intensity farming households.

Maximum Likelihood Estimates of High Intensity Maize-based Farming Households

The expected parameters and the related statistical test results obtained from the analysis of the MLE of the Cobb-Douglass based stochastic frontier production function parameters for the high intensity farming households are presented in table 6.

The sigma square is 0.2166 and statistically significant at 1%. This indicates a good fit and the correctness of the specified distributed assumption of the composite error term. The gamma (γ) ratio of 0.4947 which is significant at 1% level implied that about 49.47 percent variation in the output of the high intensity maize-based farming households was due to differences in their technical efficiencies. The coefficient of fertilizer and labor are both significant at 1% and 5% levels of probability respectively. The estimated coefficients of these variables were all positive, which conform to a priori expectation. The positive coefficient of these variable inputs implies that increase in quantities of these inputs would result in increased output. Thus, labour is one of the most significant inputs in the production of maize among high intensity households. This is expected since most of the maize production in country uses traditional technology that relies heavily on family labour. On the other hand, the coefficients of seeds and agro-chemical are both negative and significantly related to maize output. The negative signs of these inputs suggest a situation of excessive and/or inefficient use of these inputs in the production of maize in the area. The non conformity of the sign of seeds coefficient to apriori expectation could be traced to the fact that seeds used by the households in the area are mostly recycled which could reduce seed viability and yields.

Determinants of Technical inefficiency of High Intensity Maize-Based Households

The result of the inefficiency model shows that the coefficient of farm size is positive and statistically related to technical efficiency at 5% level of probability (Table 6). This implies that farming households with larger farm sizes are more technical efficient than those with smaller farm sizes in maize production among high intensity households. This may be partly because households with larger farm sizes can afford timely and adequate supply of resources and partly because of scale factor.

Credit access is also positive and significantly related to technical efficiency at 1% level of probability. This suggests that access to credit reduces technical inefficiency (or increases technical efficiency). Therefore, alleviating credit constraints enables households to buy needed inputs and thus decrease technical inefficiency. This finding is consistent with the study by Bravo-Ureta et. al. (1994) for the peasant farmers in Eastern Paraguay, where he found evidence that credit had a positive impact on technical efficiency. The coefficient of other variables such as farming experience, household size, and extension contact were found not important in determining technical efficiency of high intensity farming households.

Elasticity of production inputs and returns to scale of High Intensity Households

The summation of elasticities obtained indicated a decreasing return to scale and that small scale maize-based production in the area was in stage II of the production function (Table 7).

The estimated elasticities of mean output with respect to labour, and fertilizer inputs were 0.5709, and 0.8884 respectively. This means that for 1% increase in labour and fertilizer inputs, the output will increase by 0.571% and 0.888% respectively.

Technical Efficiency Ranges of High Intensity Maize-Based Farming Households.

The indices in table 8 showed that the technical efficiency of the sampled farming households was less than one (less than 100%), implying that all the maize based farming households in the study area were producing below the maximum efficiency frontier.

The mean technical efficiency is 0.782 (78.2%), implying that on the average the farming households were able to obtain a little over 78 percent of potential maize output from a given mix of production inputs. About 22 percent efficiency gap from the optimum (100%) was yet to be attained by all high intensity maize-based farming households.

Conclusion and Recommendations

This empirical study is on technical efficiency of maize-based farming households at different levels of crop production intensification in the Southern Guinea Savanna of Nigeria. A Cobb-Douglass production frontier was estimated by Maximum Likelihood Estimation (MLE) method to obtain ML estimates and inefficiency determinants. The results revealed that the high intensity farming households are more technically efficient (78.2%) than those of low intensity households. Also, the important factors directly and significantly related to technical efficiency are farming experience, farm size and access to credit among the low intensity households. On the other hand, farm size and credit access are the important variables among the high intensity farming households. In view of current global effort in achieving the Millennium Development Goals (MDGs), Nigerian government should embark on policy measures that will strategically ensure the maize-based farming households have access to credit facilities as well as agricultural inputs as at when due. Policies aimed at increasing farm size for the high intensity farming households should also be vigorously pursued.

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Table 1 Socio-economic Characteristics of Heads of Household

Variables	Frequency	Percentage
i) Age of the Household Head		
21-40 years	62	24.6
41-60 years	161	63.9
61-80 years	29	11.5
Total	252	100
ii)Sex of the Household Head		
Male	216	85.7
Female	36	14.3
Total	252	100
iii)Marital Status of the Household Head		
Married	198	78.6
Single	44	17.5
Widower/Separated	10	03.9
Total	252	100
iv)Household Size		
1- 5	26	10.3
6- 10	117	46.4
11-15	99	39.3
16-20	10	03.9
Total	252	100
v)Education Status of the Household Head		
No formal Education	46	18.3
Quranic Education	77	30.6
Primary Education	81	32.1
Secondary Education	30	11.9

Tertiary Education	07	02.8
Adult Education	11	04.4
Total	252	100
vi)Primary Occupation of the Household Head		
Farming	192	76.2
Agricultural Trading	19	07.5
Non-Agricultural Trading	24	09.5
Business	15	05.9
Civil Service	06	02.4
Total	252	100
vii)Farming Experience of the Household Head		
1- 10	13	5.20
11-20	55	21.8
21-30	76	30.2
31-40	56	22.2
41-50	52	20.6
Total	252	100
viii) Household Head Introduction to Farming		
Inherited	214	84.9
Farm Friends	22	08.7
Relations	16	06.4
Total	252	100

Table 2 Levels of Crop Production Intensification of Maize-Based Farming Households

Category	No of households	Range	Min	Max	Mean	Variance	Kurtosis
High Intensity	064	24.00	14.50	38.50	27.47	16.51	0.461
Low Intensity	188	26.50	5.50	32.00	19.57	26.66	-0.296
All Households	252	33.00	5.50	38.50	23.13	37.36	-0.217

Table 3 Maximum Likelihood Estimates of Low Intensity Farming Households

Variables	Parameters	Coefficient	t-values
Physical inputs			
Constant	β_0	0.2833	0.2852
Land (ha) (X_1)	β_1	-0.4289	-1.7675
Labour(man-days)(X_2)	β_2	0.5707***	2.6252
Seeds (Kg) (X_3)	β_3	0.0598	0.5459
Fertilizer (kg) (X_4)	β_4	0.7798***	7.0228
Agrochemical (litres) (X_5)	β_5	-0.0089	-0.1212
Inefficiency model			
Constant term	δ_0	0.1134	0.4665
Farm size (Z_1)	δ_2	0.1790**	2.2915
Farming Experience (Z_2)	δ_2	-0.9895**	-1.9929
Household size (Z_3)	δ_3	0.0309	0.1598
Extension contact (Z_4)	δ_4	-0.6106	-1.6096
Credit Access (Z_5)	δ_8	-0.2180**	-2.0062
Diagnostic statistics			
Sigma square (δ^2)	($\delta u^2 + \delta v^2$)	0.2212***	9.8348
Gamma (γ)	($\delta u^2 / \delta^2$)	0.9999***	4.6736
Lambda	($\delta u/\delta v$)	1.8767	
Log-likelihood function			-0.1207
δu^2	0.2212		
δv^2	0.0001		
δu	0.4703		
δv	0.0100		
Sample size (n)		188	

Source: Data Analysis, 2009, *** significant at 1%, **significant at 5%

Table 4 Estimated Elasticity of factor inputs and Return to scale of Low Intensity Households

Variable 1	Co-efficient (Elasticity of Production)
Farm size (X_1)	-0.4289
Labour (X_2)	0.5707
Seeds (X_3)	0.0598
Fertilizer(X_4)	0.7798
Agrochemical (X_5)	-0.0089
Return to scale	0.9725

Table 5: Technical Efficiency Ranges of Low Intensity Maize- Based Households

Efficiency class index	Frequency	Percentage
0.01-0.10	02.0	1.06
0.11 – 0.20	58.0	30.8
0.21 – 0.30	45.0	23.9
0.31 – 0.40	38.0	20.2
0.41 – 0.50	16.0	8.51
0.51 – 0.60	16.0	8.51
0.61 – 0.70	02.0	1.06
0.71-- 0.80	03.0	1.59
0.81 – 0.90	04.0	2.12
0.91 – 1.00	04.0	2.12
Total	125	100.0
Mean	0.301	
Maximum value	0.999	
Minimum value	0.080	

Computed from MLE results

Table 6 Maximum Likelihood Estimates of High Intensity Maize-Based Households

Variables	**Parameters**	**Coefficient**	**t-values**
Physical inputs			
Constant	β_0	0.3383	2.4255
Land (ha) (X_1)	β_1	-0.4918	-1.2232
Labour(man-days)(X_2)	β_2	0.5709**	2.5741
Seeds (Kg) (X_3)	β_3	-0.3222**	-2.0224
Fertilizer (kg) (X_4)	β_4	0.8884***	5.1875
Agrochemical (litres) (X_5)	β_5	-0.3873**	-3.4497
Inefficiency model			
Constant term	δ_0	0.3018	0.4025
Farm size (Z_1)	δ_2	- 0.7706*	-1.9520
Farming Experience (Z_2)	δ_2	-0.0100	-0.8669
Household size (Z_3)	δ_3	0.0870	1.3693
Extension contact (Z_4)	δ_4	0.0590	0.4877
Credit Access (Z_5)	δ_8	-0.1071***	-3.8574
Diagnostic statistics			
Sigma square (δ^2)	($\delta u^2 + \delta v^2$)	0.2166***	3.9503
Gamma (γ)	($\delta u^2 / \delta^2$)	0.4947***	2.4855
Lambda	($\delta u / \delta v$)	1.8767	
Log-likelihood function			-0.2905
δu^2	0.1072		
δv^2	0.1094		
δu	0.3274		
δv	0.3307		
Sample size (n)		64	

Source: Data Analysis, 2009, *** significant at 1%, **significant at 5% *significant at 10%

Table 7 Estimated Elasticity of Factor Inputs and Return to Scale

Variables	**Coefficients (Elasticity of Production)**
Land (X_1)	-0.4918
Labour (X_2)	0.5709
Seeds (X_3)	-0.3222
Fertilizer (X_4)	0.8884
Agrochemical (X_5)	-0.3873
Return to scale	0.2580

Table 8 Distribution of Technical Efficiency Indices of High Intensity Households

Efficiency class index	**Frequency**	**Percentage**
0.21 – 0.30	3.0	04.68
0.31 – 0.40	7.0	10.93
0.41 – 0.50	1.0	01.56
0.51 – 0.60	3.0	04.68
0.61 – 0.70	5.0	07.81
0.71-0.80	3.0	04.68
0.81 – 0.90	12	18.75
0.91 – 1.00	30	46.87
Total	064	100.00
Maximum value	0.960	
Minimum value	0.261	
Mean	0.782	

Computed from MLE Results