Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development
Vol. 21, Issue 1, 2021
PRINT ISSN 2284-7995, E-ISSN 2285-3952

OVERCOMING SMALL HOLDER FARMERS' FINANCIAL EXCLUSION USING ANCHOR BORROWERS' PROGRAMME IN YOLA NORTH AND YOLA SOUTH LOCAL GOVERNMENT AREAS, ADAMAWA STATE, NIGERIA

Dengle Yuniyus GIROH[1], Abubakar Ahmadu TAFIDA[1], Linus MORRIS[1], Grace Kulipanani MARCUS[2]

[1]Modibbo Adama University of Technology, Department of Agricultural Economics and Extension, P.M.B 2076, Yola, Nigeria, Emails: girohydengle@mautech.edu.ng, tafidaaa@mautech.edu.ng, morrisbazza@gmail.com
[2]Urban and Rural Development Association, P.O. Box 1031, Yola Nigeria Email: gracemarkus@67gmail.com

Corresponding author: girohydengle@mautech.edu.ng

Abstract

Rural areas in Nigeria are the centres of agriculture-based economic activity and fuel the livelihoods of 70% and contribute over 22.30% of the country's Gross Domestic Product (GDP). It is estimated that Nigerian agricultural output would increase if farmers were able to access the finance they need to expand both the quality and quantity of their produce. The limited level of Agricultural credit is considered an important factor for increased agricultural production and food security because, it enhances productivity and promotes standard of living by breaking the vicious cycle of poverty of small scale farmers. The study was conducted on Overcoming Small holder Farmers' Financial Exclusion using Anchor Borrowers' Programme in Yola North and Yola South Local Government Areas, Adamawa State, Nigeria. Data were collected using structured on 94 farmers randomly selected. Descriptive and inferential statistics were used in the analysis of the data collected. Descriptive analysis revealed that respondents were relatively young with a mean age of 40 years, a mean family size of 6 people who are mostly small holder farmers with the mean farm size of 3.21 hectares and are experienced with a mean experience of 10 years. Logit result with Diagnostic statistics and VIF test results indicated that the Hosmer and Lemeshow goodness of fit test indicating that our model fits the data well. The model also correctly predicted 73.68 % of the dependent variables. The estimated VIF suggested that the explanatory variables specified in the model do not cluster together or exhibit multicollinearity tendencies. This implies that the estimates of the model to an appreciable extent are consistent and unbiased, stable over time and there was also no problem of multicollinearity. Furthermore, the result showed that membership of cooperative society, age, primary occupation, income and training were statistically significant and increases the probability of access to agricultural credit. Government policies that would encourage young people to go into agriculture should be sustained by the government at all levels in areas of credit supply, training and supply of basic production inputs to boost production, increase food security and reduction in poverty. Farmers should be encouraged to form cooperative societies to maximize the economics of scale.

Key words**:** *Anchor Borrower programme, credit, cereals, logit regression, Yola, Adamawa*

introduction

A wide range of financial policy efforts for the improvement of small holder farmers' productivity have been put in place over the years by successive governments in Nigeria for the transformation of the agricultural subsector of the economy.

However, the desired goals have not been achieved because of some of the peculiarities of the smallholder farmers. Prominent among these are their poor access to finance and lucrative markets to dispose of their produce, which have left them in a vicious cycle of poverty [6, 12]. In order to address the agricultural credit problem of the smallholder farmer in Nigeria, the Central Bank of Nigeria and the Federal Government launched the Anchor Borrowers Programme, ABP in 2015. The ABP concept is like the contract farmer concept which has been found to be effective in other developing countries like India. The pilot project was launched by the Federal Government of Nigeria in November, 2015 in

Kebbi State to link smallholder farmers to the integrated rice scheme and to boost local production of rice with about 78,000 rural farmers in Kebbi State benefitted from the Programme. Yields as high as 7.5 to 8.0 tonnes per hectare were obtained by farmers compared with less than 2.0 tonnes per hectare previously obtained [4]. The extension of ABP cover crops like rice, maize and wheat farmers in 14 out of the 36 States in Nigeria, namely; Kebbi, Sokoto, Niger, Kaduna, Katsina, Jigawa, Kano, Zamfara, Adamawa, Plateau, Lagos, Ogun, Cross River and Ebonyi was as a result of the success achieved in Kebbi State in 2016 by the first quarter of 2017. The Programme involved the identification and selection of small scale farmers, grouping out growers into viable cooperatives or clusters and registration of the cooperatives. It also ensured the selection and engagement of banks and insurance companies execution of memorandum of understanding, MOUs, capacity building of out growers, banks, staff and extension agents, opening of bank accounts by cooperative/farmers, loan application and disbursement ,commencement of agronomic practices and distribution of agro inputs at recommended periods (funds for agro inputs are deducted from the loan and paid to the input suppliers) and fortnightly meetings to discuss development by project management team. The key stakeholders include the CBN, NIRSAL, federal ministry of finance and agriculture, state government/agricultural development programmes (ADPS), anchor companies, financing banks, insurance companies, development partners, farmers/out growers and project management team. Nigeria agricultural insurance corporation (NAIC) on the other hand provided insurance cover for the project under the Programme.

Rural areas in Nigeria are the centres of agriculture-based economic activity and fuel the livelihoods of 70% of Nigeria and contribute over 22.30 % of the country's GDP. However, it is surprising that only about 10% of Africa's commercial bank lending goes to agriculture and agro-industries, and more surprising still that less than 5%, on average, of national budgets are allocated to the agricultural sector, a fraction of which makes its way into rural communities. It is estimated that Nigerian agricultural output would increase if farmers were able to access the finance they need to expand both the quality and quantity of their produce. Given these facts, it is easy to see how financial inclusion for rural areas and agriculture is critical to achieving sustainable and inclusive growth in the country. The limited level of finance provided to rural areas in Africa seems to be a consistent pattern across different types of finance providers [7].

Agricultural credit is considered an important factor for increased agricultural production and food security because, it enhances productivity and promotes standard of living by breaking the vicious cycle of poverty of small scale farmers. Credit is regarded as more than just another resource such as land, labour and equipment, because it determines access to most of the farm resources required by farmers. Farmers' adoption of new technologies requires the use of improved inputs which may be purchased. Agricultural credit can be obtained from both formal institutions and informal sources. In most cases, small scale farmers are seen as conservative and unattractive to new and improved technology. The availability of credit from formal sources are constrained by factors such as lack of adequate security and rural branches, however late disbursement of funds, time and form of repayment are identified to be the causes of the default in repayment. Adequacy and availability of credit will help increase the capital base and raise the socio-economic statuses of the farmers. Majority of the farmers in Nigeria make use of credit from friends and relations (informal source), although some farmers make use of credit from formal sources, however credit from these sources are not readily available as those from informal sources [11]. Access to agricultural credit has been positively linked to agricultural productivity in several studies. Yet this vital input has eluded smallholder farmers in Nigeria. Issues of collateral and high interest rates screen out most rural smallholders. Another problem associated with

smallholders' access to agricultural credit is that agricultural loans are often short term, with fixed repayment periods; this may not suit annual cropping, especially when loan release is not coordinated with growing cycles of crops. For credit to be most effective, loan terms must flexibly relate to cash flows in the target business, the input demand/supply structure, and quantifiable business risks. Despite the investment opportunities which credit would offer poor households, formal banks hardly lend to the rural people engaged in agricultural production because, they lack collateral that they could offer as security for loans. Furthermore, owing to the small size of loans, formal banks are averse to lending to the small borrowers because of high transaction cost. Another reason why formal banks are reluctant to lend to people employed in agriculture is the high uncertainty of their incomes which is highly dependent on weather and providence. The recognition of credit as a powerful instrument for the reduction of poverty and food insecurity has led to multitude of programmes, aimed at providing credit to small scale farmers in Nigeria [10, 17]. Low incomes and the savings capacity of people in most developing countries are Insufficient to finance farmers' investment in new technology, therefore external capital is required to facilitate agricultural production which is dominated by small scale farmers, who produce mainly for subsistence and have small land holdings which makes their demand for credit small [5].

Theoretical Framework and Empirical Review

The theory of imperfect credit is considered relevant in the study. When people living in poverty lack financial citizenship, this will affect their acquisition of other livelihood activities. In the Nigerian situation, it is important to examine the effect of financial exclusion of farmers living in poverty which may worsen their vulnerability to lack of the various livelihood assets. These assets are needed to survive, exit or even avoid transmission of their abject state of being across generations. Financial exclusion is the inability of some individuals to access and use basic financial services which may include savings, loans, and remittances. Recent study in Adamawa State conducted by Food and Agriculture Organization, FAO (2015) as cited by [18] has shown that 49.9% borrowed money averaged at N25,000 from various sources; 31.2% from relations, 35.9% from friends 8.3% from local lenders, 2.0% from cooperative, 3.7% from banks. The extension of ABP to Adamawa State is expected to enhance farmers' access to it with attendance consequences of improved production and increase in livelihoods of the beneficiaries.

This study was therefore conducted to examine Anchor Borrowers' Programme as a factor mitigating financial exclusion of Small holder Farmers in Yola North and Yola South Local Government Areas of Adamawa State, Nigeria. The specific objectives were to: describe the socio-economic characteristics of the respondents; examine the factors influencing access to financial incentives in the package among the respondents.

MATERIALS AND METHODS

The Study Area

This study was conducted in Yola North and Yola South Local Government Areas of Adamawa State Nigeria located on Latitude 9^o 14'48' N and 9^o 16'N of the Equator and Longitude 12^o 12' 28'E and 12^o 35'E, having an average elevation of about 192 m [2]. The area falls within the Northern Guinea Savannah Zone and has a tropical wet and dry climate. Dry season lasts for a minimum of five months (November-March) while the wet season spans April to October and mean annual rainfall is about 700 mm. The areas has a land mass of 2,310.05 km^2 and a population of 522,849 people, the areas are bounded by Girei to the North, Fufore to the East and Demsa to the West [9]. The maximum temperature is as high as 40^{0}C particularly in March and April when we have the hottest period while the minimum temperature is as low as 18^{0}C between December and January [3]. Agriculture is one of the major economic activities followed by civil service and trading among the people. The soil in these areas is generally loamy clay

in marshy areas (Fadama) and alluvial soil can be found around rivers and valley. The areas are generally good for agricultural activities. The major crops grown in the areas include; rice, maize, sorghum, cowpea, millet and groundnut. During the dry season, some residents engage in dry season production. Fishing activities is mostly carried out by residents along the Benue River bank and Lake Njuwa and cattle rearing [8].

Sampling Technique

Small holder farmers, specifically those who cultivate maize and rice and have applied for anchor borrowers facilities in Yola North and Yola South LGAs formed the population for the study. The list of 180 of farmers who applied for the loan was obtained from the records of ABP in the State. Structured questionnaire were used to randomly select 94 respondents used for the study.

Methods of Data Analysis

Descriptive statistics and binary logit regression were used to determine the socio-economic characteristics and factors that influence access to anchor borrowers programmed farmers in the study area.

Binary Logit Regression

Binary logit model was employed in the study because of its comparable simplicity to probit and tobit regressions. By using the logistic regression the probability of a result being in one of two response groups (binary response) is modelled as a function of the level of one or more explanatory variables.

Thus, the probability of farmers' access to agricultural credit is modelled as a function of the level of some socio-economic attributes. For this study, the response variable is 1, when the farmers had access or financially included and 0, when they had no access or financially excluded . The functional form is denoted in equation (3):

$$Y = ln\left(\frac{\emptyset_i}{1-\emptyset_i}\right) = \beta_0 + \sum_{j=1}^{k}\beta_j X_{ij} + \varepsilon_i \text{ ..(1)}$$

where:

Y is the response category (1 if the respondent is financially included or 0 when excluded),

i denotes cases (1, 2, 3, 4.,…., 94),

$\emptyset$ is the conditional probability,

β_0 is the coefficient of the constant term,

β_j is the coefficient of the independent variable,

X_{ij} is the matrix of observed values as presented in Table 1,

ε_i is the matrix of unobserved random effects,

$\frac{\emptyset_i}{1-\emptyset_i}$ is "odd", and

$ln\left(\frac{\emptyset_i}{1-\emptyset_i}\right)$ is the logarithm of "odds".

Equation (1) can be manipulated to give the odds ratio using equation (2):

$$\frac{\emptyset_i}{1-\emptyset_i} = \exp\left(\beta_0 + \sum_{i=1}^{k}\beta_i X_i\right) \text{ ……(2)}$$

The probability of the extent of access was calculated using equation (3):

$$\emptyset_i = \frac{exp\left(\beta_0+\sum_{i=1}^{k}\beta_j X_{ij}\right)}{1+exp\left(\beta_0+\sum_{i=1}^{k}\beta_j X_{ij}\right)} \text{ ……(3)}$$

Equation (5) is intrinsically linear since the logit is linear in X_i ; it indicates that probability $\emptyset_i$ lies between zero and one and vary non-linearly with X_i. The equation for calculating partial effects of continuous variable is denoted by:

$$\frac{\partial \emptyset_i}{\partial x_i} = \emptyset_i(1-\emptyset)\beta_j \text{ ……(4)}$$

The partial effects of the discrete variables will be calculated by taking the difference of the mean probabilities estimated for the respective discrete variable, X_i = 0 and X_i = 1.

Table 1. Exogenous variables in the binary logit regression model

Variable	Measurement	Expected sign
Age	In years	±
Household size	Number of people	+
Membership of cooperative society	Binary variable (1 = member, 0 = not a member)	+
Primary occupation	Binary variable (1=farmer, 0=otherwise)	+
Farming experience	In years	±
Income	In naira	+
Training	In days	+

Source: Data Analysis, 2020.

RESULTS AND DISCUSSIONS

Selected Socio-economic Characteristics of the Respondents

Socio-economic characteristics are an economic and sociological combination of total measure of a person's economic and social position relative to others. These characteristics as they relate to the respondents are presented in Table 2. It revealed that the mean age of the respondents was 40 years with a standard deviation of 10.3 years which implied that they are relatively young. The minimum and maximum ages were 22 and 77 years respectively. The result revealed that young farmers dominate cereal crop production especially maize and rice which were the commodity driven crops meant for the State in the Anchor Borrowers Programme of the government. Low mechanization of agriculture in developing countries of the world poses the need for manual labour which is usually provided by large household sizes of rural farmers. Apart from serving as a reliable source of labour for most productive activities, they have the tendency of putting more pressure on household heads to devising means of production to meet the needs of their families. Analysis in Table 2 indicated the mean family size of 6 people with a standard deviation of 3.86 which is a reflection of the fact that many of the respondents were married with minimum and maximum family sizes of 1 and 20 people respectively. Furthermore, analysis based on farm size also revealed that respondents are small holder farmers with the mean farm size of 3.21 hectares with a standard deviation of 1.29 which implies that farmers operated at different levels of farm sizes which tend to affect their production levels. The result is line with several studies conducted which showed that agriculture in Nigeria are dominated by small scale farmers producing the bulk of both food and cash crops [1]. Years of farming experience have been reported to provide a measure of managerial ability among farmers in Nigeria. The mean farming experience was 10 years with standard deviation of 8.49 years. This implies that there were variations in farming experience among the respondents. The more experienced the farmer is the better he/she is in the management of farm enterprise.

Table 2. Summary statistics of selected Variables

Variable	Mean	Standard Deviation	Minimum	Maximum
Age	40.05319	10.82944	21	77
Household	5.893617	3.861773	1	20
Farm size	3.212766	1.294092	1	6
Farm experience	9.989362	8.489709	2	42

Source: Data Analysis 2020.

Factors affecting access to Agricultural Credit by Respondents

Logit result with Diagnostic statistics and VIF test result are contained in Tables 3 and 4. The model was tested for specification error using link test. The result indicated a hat-square value of 0.1131204(p-value = 0.68) which shows that there was no specification error. The Hosmer and Lemeshow goodness of fit test has a Pearson chi-square value of 80.29 (p-value of 0.0000) indicating that the model fits the data well. The model also correctly predicted 73.68 % of the dependent variables. The estimated VIF with respect to each variable was greater than unity but less than the threshold level of 10 (Table 4). The result suggests that the explanatory variables specified in the model do not cluster together or exhibit multicollinearity tendencies. This implies that the estimates of the model to an appreciable extent are consistent and unbiased, stable over time and there was also no problem of multicollinearity since none of the variance inflation factors (VIF) is more than 10. Result presented in Table 3 indicates that five out of the seven variables included in the model namely membership of cooperative society, age, primary occupation, income and

training were significant, while farming experience and household size were not significant. Okeke *et al.* [13] found out in their studies that rice farmers' access to ABP was significantly influenced by their socio-economic characteristics.

Access to agricultural credit by farmers can be determined by their age. Young farmers are able to access and utilized agricultural credit because they are active, productive and eager to take risk associated with production than older farmers. Elderly farmers are risk averse and less flexible and lesser likelihood of accessing credit and utilizing them. This study found a negative but significant at 5% level relationship between age and access to agricultural credit (Table 3). Furthermore, the result indicated that one year increase in age reduces the probability of having high access to agricultural credit by 0.000059%. Training builds capacity for the performance of productive activities. Training enhances managerial ability in people and can adopt innovations easily than those who are not trained. Sourcing for information and their interpretation and investment decision are easier with trained people. It is therefore, hypothesized that training will increase the probability of access to agricultural credit among farmers. Result in Table 3 revealed training had significant relationship with access to agricultural credit at 5% probability level. This implies that being trained increases the intensity of access to agricultural credit. High premium was attached to training in Anchor Borrowers Programme to equip participating farmers in the programme. Income is one of the critical factors of technology adoption and improved production. Farmers with high levels of income are better off than those with low levels of income. It is hypothesized that income will increase the level of access to agricultural credit. Income had a significant relationship with access to agricultural credit at 5% probability level. The result suggests that a unit increase in the income of respondents increases the probability of having access to agricultural credit by 18.19%. Cooperative society is one of the media through which agricultural technologies are conveyed to farmers. It is hypothesized that being a member of cooperative society will increase a farmer's probability of getting access to agricultural credit.

The coefficient of the variable was positive and statistically significant at 5%. More specifically, the marginal effect estimates show that farmers' decision to be a member of cooperative society increases the likelihood of access to agricultural credit by 70.36%. Opeyemi [16] attributed decision to belong to any membership of cooperative group is influenced by awareness.

This could be adjudged to flow of information that is always associated with membership of associations that address mutual interest. This is consistent with findings of [15] who also found out that membership of a cooperative society influences an individual farmer's decision in farm technologies adoption. Oladele and Wakatsuki [14] also established that adopting a new technology would be influenced by other farmers in their social group where they share information and learn from each other. Individual farmers are expected to be more likely to apply for credit when they know many other farmers who have benefitted from the credit facility provided by ABP. Occupation is a sustainable livelihood activity in which people earn a living.

A primary occupation takes a large chunk of time of an individual. Agriculture is the major occupation in rural farming households in Nigeria accounting for over 70% of employment. It is hypothesized that farming as a primary occupation of the respondents will increase the level of access to agricultural credit.

As shown in Table 3, a significant relationship existed between primary occupation and access to agricultural credit is statistically significant at 5% probability level. The result suggests that farming as primary occupation will increase the probability of access to agricultural credit.

Table 3. Logit Regression Result for Factors influencing Access to Agricultural credit

Variable	**Coefficient**	**Standard error**	**Z-value**	**P-value**	**Marginal effect**
Age	.0168403	.0054443	3.09**	0.002	.000059
Household size	.1635544	.3605655	0.45	0.650	.0251453
Membership of cooperative society	.0014575	.0005563	2.62**	0.009	.7036445
Primary occupation	.0245397	.0117657	2.09**	0.037	.1015077
Farming experience	.0082431	.050297	0.16	0.870	.0088223
Income	.001381	.0005427	2.54**	0.011	.1819219
Training	.0182888	.0054219	3.37**	0.001	.6298849
Constant	7.777747	3.136501	2.48**	0.013	
Diagnostic Statistics					
Chi-square 32.84**					
Log likelihood -47.516953					
Pseudo R^2 0.6568					
Specification test					
_hat	.934658	.2609334	3.58**	0.000	
_hatsq	.1131204	.1654827	0.68		
goodness-of-fit test Pearson chi2(84) 80.29**					
Correctly classified: 73.68%					
Number of respondents 95					

Source: Data Analysis 2020. ** Significant at 5%

Table 4. Variance Inflation Factors (VIF) Result

Variable	**VIF**
Membership of cooperative society	2.41
Household size	2.16
Age	2.12
Training	1.24
Farming experience	1.20
Primary occupation	1.13
Income	1.11
MEAN VIF	1.62

Source: Data Analysis 2020.

CONCLUSIONS

Based on the findings of the study, it can be concluded that respondents were relatively young with the mean family size of 6 people who are mostly small holder farmers and are experienced. Socio-economic disposition have influence on their ability to access agricultural credit.

Government policies that would encourage young people to go into agriculture should be sustained by the government at all levels in areas of credit supply, training and supply of basic production inputs to boost production, increase food security and reduction in poverty.

Farmers should be encouraged to form cooperative societies to maximize the economics of scale.

REFERENCES

[1]Abolagba, E.O., Onyekwere, C.N., Agbonkpolor, B.N., Umar, H.Y., 2010, Determinants of Agricultural Exports. Journal of Human Ecology. 29 (3): 181 – 184.

[2]Adebayo, A. A., 1999, Climate, sunshine, temperature, evaporation Adamawa State in Maps and relative humidity. In Adebayo, A. A. and Tukur, A. L. (Eds.),. Yola, Nigeria: Paraclette Pub. Pp. 20-22.

[3]Adebayo, C.O., Sanni, S.A., Baiyegunhi, L.S., 2012, Impact of Microcredit Scheme and Food Security status of Beneficiaries in Kaduna State, Nigeria. African Journal of Agricultural Research, 7(37), 5191-5197.

[4]Akinwumi, A., 2016, Agriculture as a Business: Approaching Agriculture as an Investment Opportunity. African Development Bank.

[5]Elhiaraika, A.B., 1999, The growth and potential of savings and credit co-operative societies in Swaziland. Development Policy Review, 17(4), 355-374.

[6]Evbuomwan, G. O., Okoye, L. U., 2016, Agricultural Value Chain Financing and Small Scale Farmers in Nigeria: The Pre-requisites. Proceedings of the 10th Africa Farm Management Association Conference held in Mauritius, from 20 – 24 November, 2016.

[7]Miller, C., Jones, L., 2010, Agricultural Value Chain Finance: Tools and Lessons. Food and Agriculture Organization of the United Nations.

[8]National Bureau of Statistics (NBS), 2013, National living standard survey, National Bureau of Statistics, Abuja.

[9]National Population Commission. 2006, Human population figures of 2006 census in Nigeria, Official Gazette, Vol.94, Lagos.

[10]Nguyen, C. H., 2007, Access to Credit and Borrowing Behaviour or Rural Households in a Transition. Food and Agricultural Organization, Rome.
[11] Odoemenem, I. U., Ezike, K. N. N, Alimba, J. O., 2015, Assessment of Agricultural Credit Availability to small scale farmers in Benue State Nigeria.Journal of Agricultural Science and Technology15 (1&2): 79 - 87.
[12]Ojiya, E.A., Okoh, S.A., Mamman, A.B., Chukwuemeka, N.J., 2017, An empirical analysis of the effect of agricultural input on Agricultural productivity in Nigeria. International Journal of Agricultural Science and Food Technology 3(4): 77-85.
[13]Okeke, A.M., Mbanasor, J.A., Nto, P.O., 2019, Effect of Anchor Borrowers' Programme Access among Rice Farmers in Benue State, Nigeria: Application of Endogenous Switching Regression Model, International Journal of Agriculture and Earth Science 5(3): 31- 47.
[14]Oladele, O.I., Wakatsuki, T., 2012, Socio-economic Features, Dynamics of farmers Associations and Adoption of Sawah Rice production Technology in Nigeria and Ghana. Journal of Food Agriculture and Environment 10(2):434- 437.
[15]Onumadu, F.N., Osahon, E.E., 2014, Socio-Economic Determinants of Adoption of Improved Rice Technology by Farmers in Ayamelum Local Government Area of Anambra State, Nigeria. International Journal of Science and Technology Research 3(1):308-314.
[16]Opeyemi, O., 2019, Assessment of Awareness and Determinants of Anchor Borrowers Programme's Adoption among Rice Farmers in Kaduna State, Nigeria. International Journal of Creative and Innovative Research in all Studies 2(1):58-68.
[17]Oruonye, E. D., Musa, Y. N., 2012, Challenges of small scale farmers access to microcredit (Bada Kaka) in Gassol LGA, Taraba State, Nigeria. Journal of Agricultural Economics and Development, 1 (13): 62-68.
[18]Tafida, A.A., 2017, Agricultural Potentials, Production and Mechanisms for Sustainability in Adamawa State. Adamawa Community Advancement Initiative News Letter 4:11-32.