Improving Welfare of Rural Farmers through Youth Empowerment Programme

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***Abstract*— An empirical study was conducted to analyse the status of poverty of rural farming households in Akwa Ibom State, Nigeria. Specifically, the study measured the impact of Integrated Farmers Scheme (An Agricultural Youth Empowerment Programme by Akwa Ibom State Government of Nigeria) on the welfare of the rural farmers. Multistage sampling procedure was employed to select the representative families. With the aid of questionnaire, data were collected from 120 farming households. Data were analyzed using multiple regression analysis and chow test. Result of poverty analysis revealed that whereas marriage type, educational level, membership of social organization, remittance access, farming experience and farm size were significant ($p<0.01$) and positively related to welfare of beneficiaries and non-beneficiaries of the integrated farmers scheme whereas age, labour, type of enterprise and access to farming inputs were significant ($p<0.10$). Off farm income was significant ($p<0.05$) and negatively related to welfare. Results of test of homogeneity of slopes showed that the scheme did not bring about structural changes in the parameters of the poverty equations at 5 percent level of significance. The test for shift in intercept revealed that there was no significant poverty differences between the beneficiaries and non-beneficiaries of the integrated farmers scheme. Findings suggest that although the poverty reduction scheme brought about improvement in welfare of the beneficiaries of the scheme, there was no significant difference in the welfare of both beneficiaries and non-beneficiaries of the scheme. Policy options should focus more on providing support and credit to rural farmers.**

***Keywords*— Beneficiaries, farmers, poverty, strategy**

I. INTRODUCTION

Although, urban poverty exist, poverty in Nigeria and many other developing economies is essentially a rural phenomenon as most poor people live and derive their livelihood through farming in rural areas [1]. The young who are active and energetic comprise the farming population. Ref. [2] [3] posited that one of the economic characteristics of the poor and poverty is that they are depicted by young people. There is no where in the world where poverty is more prevalent than in sub-Saharan Africa. According to [4] approximately one person in the subsists on less than US $ 1.25 per day with approximately 70 percent living in rural areas and also thirty-two of the forty-eight poorest countries are located in sub-Sahara Africa. Most of the rural farming population comprises young people and more than half of the world population of young people is made up of rural youth who are affected by poverty. But employment in rural areas is only in small scale farming and majority of youths have lesser opportunities. Hence, many young people are left unemployed and improvised have migrated to cities in a bid to escape poverty and improve their livelihood. Ref.[5] reported that rural-urban drift and the movement of young people away from agriculture are making farm labour increasingly scarce. This exodus of youth into urban centers has increased the high unemployment rate already prevalent in the area. The possibility of these rural youths engaging in decent work in many countries of the developing and emerging economies particularly in Africa and south central Asia is limited [6]. Coupled with the uncertainty of finding work outside agricultural sector. While acknowledging these issues within policy intervention that expressly address rural youth and employment opportunities, government through the state ministry of Agriculture has decided to encourage the migrant youths to embark on meaningful agricultural production through the provision of credit facilities. This study was therefore conducted to measure the impact of the integrated farmers scheme (youth empowerment scheme) on the welfare of the rural farmers.

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II. METHODOLOGY

Study Area, sampling and data collection procedure:

Akwa Ibom State was the study area. It lies between latitude 4°33' and 5°53 North and longitude 7°25' and 8°25' East [7]. The state has a total land area of 7,249 square kilometers and population density of 680 persons per square kilometer. It has an estimated population of 5.3 million [8]. It falls within the tropical zone with dominant vegetation of green foliage of trees, shrubs and oil palm tree belt. The state is circumscribed to the North, East, West and south by Abia, Cross River, River States and Atlantic Ocean respectively. The annual precipitation is between 2000-3000 mm per year. The area is typically agrarian and depends heavily on rainfall. For farming administrative convenience, the area is divided into 6 Agricultural Development Zones namely of Uyo, Eket, Ikot Ekpene, Abak, Oron and Etinan. The state has 2 seasons viz:- the short dry season and long rainy season. Multistage sampling technique was used to select farmers for the study. First, Uyo agricultural development zone was purposively selected due to the dominance of beneficiaries of the welfare scheme in the zone. Secondly, 10 households each from beneficiaries and non-beneficiaries of the integrated farmers scheme were randomly selected. Finally, 6 farmers (each of beneficiaries and non-beneficiaries) were randomly selected from Uyo agricultural zone to make a total of 120 farmers. Primary data were obtained using questionnaire. The analytical techniques used for this study included multiple regression analysis and chow statistics.

The multiple regression analysis is expressed as
PCHE = F (SEX, AGE, MTS, TOM, EDU, MOC, RAC, FEX, VOA, FAS, OFI, LAB, LOA, AES, AMF, e) (1)

Where PCHE= Per Capita Household Expenditure; SEX------AMF =explanatory variables; e= error term.

The chow F-statistics was computed following [9] [10]

$$F = \frac{[\sum e_3^2 - \sum e_1^2 - \sum e_2^2]/[K_3 - K_1 - K_2]}{[(\sum e_1^2 + \sum e_2^2)/K_1 + K_2]} \quad (2)$$

Where $\sum e_1^2$ and K_1 are the error sum of square and degree of freedom respectively for the beneficiaries sample, $\sum e_2^2$ and K_2 are the error sum of square and degree of freedom respectively for the non-beneficiaries sample and $\sum e_3^2$ and K_3 are the error sum of square and degree of freedom respectively for the pooled data and;

$$F = \frac{[\sum e_3^2 - \sum e_{14}^2]/[K_3 - K_4]}{\sum e_4^2 / [K_4]} \quad (3)$$

Where $\sum e_4^2$ and K_4 are the error sum of square and degree of freedom respectively for the pooled data with a dummy variables are as earlier defined.

III. RESULTS AND DISCUSSION

The coefficient of the marital status of households' head is -0.803. This shows that the welfare status of households headed by married people will be reduced by -0.803. Hence having a welfare of 11.020 as against 11.818 for unmarried people. The reason for this may be attributable to the fact that married households tend to have household sizes thus welfare status is more likely to decrease in larger household sizes than smaller ones. The type of marriage whether polygamous or monogamous influences the welfare level. The coefficient of marriage type is 0.296 meaning that the welfare level of an individual in monogamous households is increased by 0.296 to become 12.110 as against 11.818 for polygamous households. This is true because monogamous households have smaller household size than polygamous ones which causes a rise in the welfare level among such monogamous households. The coefficient of educational status is 0.121. This implies that the welfare is increased by 0.211 for individuals in households whose heads have formal education to become 11.94. Household heads without formal education have a welfare of 11.818. This may be attributed to the fact that household heads with formal education have a greater tendency to adopt improved farming techniques than the uneducated ones. This increase farm productivity, incomes and welfare of the educated heads.

The cooperative membership has a coefficient of 0.964 implying that the level of welfare of a household headed by an individual who is a member of one or more cooperative societies will be increased by 0.964 to 12.780. But households whose heads do not belong to any cooperative society have a welfare level of 11.818. The reason for this is may be due to the fact that members of cooperative societies have access to loanable funds which raises income and reduces deprivation/poverty. The coefficient of remittance access is 0.046 implying that the level of welfare of household heads who receive remittance from friends and relatives will be increased by 0.046 to 11.86 but households whose heads have no remittance access have welfare level of 11.818. This may be due to the fact that remittance from friends and relatives is additional source of household income which ultimately raises welfare. The regression coefficient for farming experience of the farm household heads is -0.331 implying that as years increase in farming experience of the household head will lead to 0.331 unit decrease in welfare level. This is because as years of faming experience increases, the age of the household head also increases. Since drudgery occurs in farm operation, the energy available for work decreases as experience in farming increases. This however leads to a reduction in cultivable area with a reduction in farm income and household welfare. The regression coefficient for farm size is 0.452. This result implies that a hectare rise in farm size would increase welfare level by 0.452. Since output level is directly related to land area under cultivation, an increase in farm output would therefore cause from income to rise with subsequent reduction in poverty level.

Off-farm income has a coefficient of 0.299 meaning that for every naira increase in off-farm income, the level of household welfare will be raise by 0.299. This is because increase in income from non-farming activities provides additional source of household income and investment which ultimately raises welfare level. The regression coefficient for labour employed in farm operations is -0.281. This implies that a manday rise in labour employed in farm operations is will lower welfare level by -0.281. The reason for this is because increase in family labour results from larger household sizes and higher dependency ratio which tends to reduce welfare status. The type of enterprise has a coefficient of 0.237 implying that the level of welfare of household heads who are engaged in two or more agricultural enterprises will be increased by 0.237 to become 12.060 as against 11.818 for household heads who engage in only one type of enterprise. The reason for this is because household heads who are engaged in more than one enterprise are likely to have additional sources of income to household. Also in the event of failure of one enterprise, household heads who engage in two or more enterprises have less risk of losing farm output and income than household heads who have just one enterprise. Access to modern farming inputs has a coefficient of 0.628. Hence, welfare will be increased by 0.628 to become 11.446 for households with access to modern farming inputs. However, households without access to modern farming inputs have welfare level of 12.450. This is true because by using modern farming inputs, farmer's output and income are likely to increase with subsequent reduction in ill-being.

The test for homogeneity of slopes shows that the coefficients of the fitted equations are equal since Fcal of 1.02 is less than Ftab of 1.97 implying that the scheme did not bring about structural change in the parameters of the poverty equation at 5 percent level of significance. This test for shift intercepts shows that Fcal is less than Ftab i.e. 0.61 is les than

2.66 at 5 percent level of significance implying that the intercepts are homogenous and there is no significant poverty differences between the scheme beneficiaries and non-beneficiaries.

IV. Conclusion

The agricultural sector has potential which could generate good and lucrative employment opportunities for the rural youth. Unfortunately, many young people do not perceive agriculture as a viable or attractive means of livelihood. The drudgery of low productivity agriculture is not attractive to the youths of today. Consequently, young people have migrated to cities in search for higher productivity and better remunerated employment. This study investigated the impact of empowerment programme on the welfare of youth. Results revealed that by engaging young people in different agricultural activities through government empowerment programme of the integrated farmers scheme, the welfare of rural youth could been improved. The most critical welfare indicators identified in the study area were age, marital status, type of marriage, education, membership of cooperative, remittance access, farming experience, value of asset, farm size, farm and off-farm income, labor and type of enterprise.

TABLE I: Poverty equations for the impact of integrated farmers' scheme on the welfare of beneficiary and non-beneficiary farmers (pooled with dummy)

Variable	Linear	+ Exponential	Double-log	Semi-log
Constant	39707.516	12.803	10.660	90.464.695
	(2.017)**	(4.326)***	(12.130)***	(1.336)
Sex	-3148.528	-0.212	-0.327	-2288.008
	(-0.598)	(-0.9210	(-2.919)***	(-0.435)
Age	-323.547	-1.156	-4.40E-03	-30449.77
	(-2.973)***	(-1.781)*	(-0.227)	(-2.052)**
Marital status	-14686.84	0.772	-1.088	-10405.20
	(-0.896)	(-2.069)**	(-6.289)***	(-0.619)
Type of marriage	-3474.284	6.797E-02	0.217	-3486.982
	(-0.211)	(0.094)	(0.295)	(-0.210)
Education	-239.563	-8.079E-02	-6.432e-03	-3639.52
	(-0.416)	(-0392)	(-0.250)	(-0.772)
Membership of cooperative	1044.525	-6.698e-02	4.378E-03	-3639.521
	(0.219)	(-0.310)	(-0.250)	9-0.772)
Remittance Access	3.206e.03	7.798e-03	1.636e-06	-813.825
	(0.062)	(0.170)	(0.712)	(-0.774)
Farming Experience	-387.626	-0.191	-0.975	-2063.256
	(-3.324)***	(-9.551)***	-42.391)***	(-0.051)
Value of Asset	8.415E-03	-0.212	-1.121	-2063.256
	(0.444)	(-2.436)**	(-11.438)***	(-2.063)**
Farm size	6627.234	0.952	-6.000E-02	4878.250
	(2.282)**	(6.181)***	(-0.463)	(1.939)*
Off-farm Income	-1.563E-02	-7.584E-02	-6.885E-07	-2418.961
	(-0.395)	(-0.513)	(-0.390)	(-0.715)
Farm Income	-1.849E-02	0.250	-4.185E-08	6451.206
	(-0.366)	(2.100)*	(-0.019)	(1.988)**
Labour	205.950	0.282	5.849E-03	10231.242
	(3.815)***	(1.682)*	(2.427)**	(2.666
Loan	-1.882E-03	0.214	3.868E-08	774.602
	(0.068)	(5.487)***	(0.031)	(0.865)
Type of Enterprise	2702.205	0.155	0.241	863.933
	(2.675)**	(0.801)	(2.482)**	(0.195)
Access to Extension Services	-9730.730	-0.34	-0.278	-11357.49
	(-1.937)*	(-2.782)***	(-0.751)	(-1.714)*
Access to modern farming inputs	4585.144	-1.787E-02	-4.675e-02	7074.127
	(0.668)	(0.058)	-0.153	91.744)*
Dummy	-5520.488	0.396	0.370	-7019.146
	(0.482)	(3.444)***	(-3.218)***	(-0.606)
	R^2 = 0.622	R^2= 0.638	R^2= 0.417	R^2 = 0.509
	F-value = 0.622***	F-value = 4.162***	F-value = 4.014***	F-value=2.826***

***, **, * Significant @ 1%, 5%, and 10% levels respectively with t-values in parenthesis while + indicate the lead equation

TABLE II: TEST FOR HOMOGENEITY OF SLOPES

Category of farmers	Sum of Squared Error	Degree of Freedom	Fcal
Beneficiaries	91.854	132	
Non-Beneficiaries	154.910	130	1.02
Pooled	92.353	102	

TABLE III: TEST FOR SHIFT IN INTERCEPT

Category of farmers	Sum of squared error	Degree of freedom	Fcal
Beneficiaries	91.854	132	
Non-Beneficiaries	154.910	130	0.61
Pooled with dummy	92.798	101	

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