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Challenges In Rice Production Under The Youths-In-Agriculture Programme: Lessons From Nasarawa State Western Agricultural Zone and The Way Forward.

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Abstract

The research was designed to analyze the socio-economic challenges in rice production through children and youths-In-Agriculture programme in the Western Agricultural zone of Nasarawa State. Data were analyzed using descriptive statistics and simple linear regression model. The results of the study showed that age and education are statistically significant at 5%, while farm size, capital investment and land ownership had significant influence on rice production. The results further revealed that all the variables in the model had positive relationship with rice production among youths in the area of study. This finding implies that any increase in the amount of these will equally increase rice output. The study concluded by suggesting a number of policy implications that would reposition the young farmers for increased rice production and food sustainability.

Key words: Young farmers, rice, food security, agriculture.

Introduction

In Nigeria about a quarter (22% - 77 million) of the populace is made up of youths (UNICEF, 2008). Youths in all countries are both a major human resource for development in agriculture and technology innovation (Nwanchukwu, 2008; Onuekwusi, 2003; Ovwigho and Ifie, 2004). Participation or involvement of youths in agriculture is a way of increasing their skills, knowledge, confidence and self-reliance and opportunity to collaborate and engaged in sustainable development (Akinbile *et al.* 2008, Kyle, 2009). F.A.O. (1986) reported that mobilizing the youth requires multi-functional dimensions. One of the principal factors is the role of social institutions in mobilizing and equipping the youth vis-à-vis involving them in agriculture. Similarly, Adedoyin (2005), further added that this category of population acquired traditional farming skills and knowledge, which are not significantly utilized to the utmost advantage of the agricultural sector. Their participation in agricultural development is very important because they have potential to contribute actively and productively in all

significant aspect of agriculture which includes crop production, livestock rearing and fish production. The males have been found to be more active in agricultural production than their female counterparts who are more involved in processing and selling of commodities produced by their male folk.

Concepts of Child and Youth

Obinne *et al* (1998) defined children to include all categories of people with ages ranging from birth to 18 years. This is in line with the United Nations Convention on the right of the child which described individuals aged 0-18 as children. This has been adopted based on the fact that the country recognizes over 18 years of age mature enough to vote and be voted for at elections. Also using the dependency factor, most people of ages up to 18 years still depend on adults for their survival, protection and development. On the other hand, youths are often classified as people between the age range of 15 – 40 years irrespective of marital status and means of livelihood. The 15-40 years age bracket for youth irrespective of marital status puts the youth population over 60 percent in developing countries in most African societies. However, Ovwigho and Ifie (2004) reported that the social-personal definition of youth is derived from observation and specially made by individuals in public gatherings. This definition views a youth as an individual with sound mind, heart and body. For the purpose of this research, the concepts of children and youth is adopted and both categories play vital role in the provision of food and fiber in our nation economy. Therefore, the research is focused on both categories as veritable tools for rural and agricultural transformation. Folade (2001), pointed out that preparing and mobilizing farm children and youths is potentially sustainable in the realization of rural and agricultural development as well as poverty alleviation in Nigeria. It is very crucial that the young people are taught early in life how to organize themselves into cooperatives so as to boost the agricultural sector. Moreover, the youth and children constitute the crucial future labour force and along with their parents, they actively participate in land clearing, cultivation, planting, weeding, harvesting, pre-storage, processing and storage, amongst other farm operations.

Rice Production

In Nigeria, rice has emerged as one of the fastest growing agricultural sub-sector and has moved from a ceremonial to a staple food in many Nigerian homes within the last two decades, such that some families cannot do without rice in a day. Nwachukwu *et al* (2008) reported that as a staple food in Nigeria, rice accounts for 40 percent of the diet of the country's population but production has been growing at a slow rate relative to consumption within the last years. Idiong *et al* (2006) quoting Akpokodje, *et al* (2001)

reported that rice is an important food and cash crop in Nigeria and that it serves multi-purpose roles. It immensely contributes to internal and external African Sub-Regional trade as well as food security for the nation. Also rice contribution in Nigeria has been on the increase over the years.

Rice occupies a dominant position among arable crops grown in the Western Agricultural Zone of Nasarawa State. Farmers in the zone cultivate rice as sole crop in the field and or as intercrop with others such as maize and cocoyam. Cultivation of rice in the zone is labour intensive which requires so many operations and techniques that are done manually. Most of these operations cannot be done successfully without children and youth miscellaneous assistance in clearing, ridging, weeding, transplanting among others. This explains why most farmers who are already aged planned their stages of rice cultivation to set in during the holidays when these young men have chance to participate fully in the rice field work. These children and youths are mainly those who are still at early stage of their life who are still receiving training from their elders or parents/guardians and are found mostly in primary, secondary schools and tertiary institutions.

Problem Statement

Rice production is among the primary sources of income for many farmers in the Western Agricultural Zone of Nasarawa State. However, rice cropping system in this zone is beset with problems associated with low-labour output, low yield, relatively high production costs, poor producer price and marketing system. Adeniyi (1987) and Oni and Ikpi (1979), observed that related problems of that nature have led to the low yield and hence to the decline in the local production of this crop. A research evidence adduced by way of literature review, has shown the significant contribution of youths to agricultural development. Therefore, this research will help to encourage many farmers to engage their family members who are in the youths category in farming activities and in particular rice production. Also the above will crystallize into the need for youth oriented programme for sustainable food production in Nigeria.

Objectives of The Study

The general objective of the study is to examine the socio-economic challenges of rice production through children and youth-in-agriculture.

The specific objectives are:

- (i) describe the socio-economic characteristics of youth in the programme.
- (ii) determine the level of involvement of youth in rice production in the study area.
- (iii) determine rice productive resources available to youth in the area of research.
- (iv) identify constraints facing youth in rice production.

- (v) make recommendations based on the findings.

Methodology

The study was conducted in the Western Agricultural zone of Nasarawa State. The Zone is made up of five Local Government Areas; namely: Keffi, Karu, Kokona, Nasarawa and Toto. Majority of the inhabitants are peasant farmers. The climate and soil conditions of the zone are suitable for growing cereal crops such as maize, guinea corn, millet, rice, acha, and tuber crops such as yams, cassava, sweet potatoes and cocoyam. Rice is grown mainly on swampy areas in the rainy season because this crop requires a lot of water to make it tiller abundantly.

The population for the study was rice youth farmers in the Western Agricultural Zone. Data were collected with the aid of a structured questionnaire that was administered to the respondents. Double stage sampling technique was adopted for the research. The first stage involved the random selection of two districts from each of the five Local Government Areas. The second stage involved the purposive selection of twenty (20) youths from each district bringing to a total of two hundred (200) respondents. Where children were involved households were used to fill in the questionnaires. Descriptive statistics such as percentages, frequency distributions were used to achieve objectives (i), (ii). The simple linear regression model was used to satisfy objective (iii), and the model is expressed in its general form as follows: the model assumes that Y is linearly related to the predictors:

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, U).$$

where: Y = Quantity of rice output (Kg)

X₁, = Gender ; X₂, = Age of respondents (years) ;

X₃, = Educational level ; X₄, = Seed inputs; X₅, = Land ownership status

X₆, = Capital investment ; X₇, = Farm size (hect.) ; X₈, = Fertilizers

X₉, = Herbicides ; U = Error term

The selection of the lead equation was based on the multiple of the coefficient of multiple determination (R^2), the signs of the estimated regression coefficients and the level of "t" statistics. Finally, a 5-point likert scale was used to achieve objective (iv) of the study and was employed to determine the respondents' degree of perception on constraints to rice production. Responses were later classified into two patterns depending on mean-score response for each variable. The mean-score with the numerical value that is equal or above 4.0 was classified positive constraint to the variable, while response with the mean-score below the numerical value of 4.0 were classified as negative to the corresponding variable.

Results and Discussions

The research covered both male and female youths involved in rice production. The result in table 1 showed that majority (80%) of these youths are males, while 20% are females. The males constitute the majority because the female ones are used mainly for domestic work and for the fact that women have always been denied access to productive resources: Ukonu, (2001) identifies lack of fund, shortage of land and lack of control over land, lack of time and other domestic duties at home as zones of the constraints faced by women farmers.

The respondents were mainly children and youths, however those within the age range of 41 – 50 constitute the majority (42%) and followed by those in the age range of 31 – 40 years (33%), while the least is those in the age range of <20 (4%). The result further revealed that majority (43%) are primary pupils, followed by those with secondary school education (26%). Those that had no formal education constitute 18%, while the least 13% are those with tertiary education. All the respondents had considerable number of experience in farming. Land acquisition is mainly through inheritance (65%). The result of the analysis further showed that the source of capital for the respondents is mainly from personal contribution (48%) and borrowing from relatives (20%). The source of planting materials for the respondents is from their previous harvests.

The result of the study in Table 2 shows that these young people participate in all the farm operations involved in rice production, though in varying degrees. For instance, clearing and removal/burning of trashes constitute (82.50%), Tilling and leveling of nursery site (90%), transplanting (97.50%), weeding/application of herbicides (85.00%), bird scaring (96.00%) and harvesting (99.00%). The least operations were found in making of ridges (52.50%), thinning and supplying (43.50%), pulling (42.50%), broadcasting/sowing of seeds (59.00%) and fertilizer application (45.00%). These tasks with lower frequencies were considered delicate or hard for the youths and so they will require the attention of adults.

Table 1: Socio-Economic characteristics of the Respondents involved in Rice Farming business

Variables	Frequency	Valid Percentage (%)	Cumulative Percentage (%)
Gender			
Male	160.00	80.00	80.00
Female	40.00	20.00	100.00
Total	200.00	100.00	
Age:			
<20	8.00	4.00	4.00
21 – 30	42.00	21.00	25.00
31 – 40	66.00	33.00	58.00
41 – 50	84.00	42.00	100.00
>51	0.00	0.00	
Total	200.00	100.00	
Educational Level			
Illiterate	36.00	18.00	18.00
Primary School	86.00	43.00	61.00
Secondary School	52.00	26.00	87.00
Tertiary Institution	26.00	13.00	100.00
Total	200.00	100.00	
Years of farming experience			
1 – 9	40.00	20.00	20.00
10 – 19	80.00	40.00	60.00
20 – 29	60.00	30.00	90.00
30 – 39	20.00	10.00	100.00
Total	200.00	100.00	
Land Acquisition			
Purchase	08.00	4.00	4.00
Inheritance	130.00	65.00	69.00
Lease	50.00	25.00	94.00
Communal	12.00	06.00	100.00
Total	200.00	100.00	
Source of Capital			
Personal Contribution	96.00	48.00	48.00
Banks	20.00	10.00	58.00
Relatives	40.00	20.00	78.00
Cooperatives	30.00	15.00	93.00
Associations	14.00	07.00	100.00
Total	200.00	100.00	
Source of planting Materials			
Previous harvests	13.00	65.00	65.00
Markets	40.00	20.00	85.00
Agencies (e.g. ADP)	30.00	15.00	100.00
Total	200.00	100.00	

Table 2: Level of Youth Participation In Rice Production Experience

Operations	Respondents Frequency	Percentage
Clearing and removal/burning of trashes	165	82.50
Tilling and leveling of nursery site	180	90.00
Making of ridges	105	52.50
Broadcasting/sowing of seeds	118	59.00
Pulling	85	42.50
Transplanting	195	97.50
Weeding/application of herbicides	170	85.00
Thinning and Supplying	87	43.50
Fertilizer application	90	45.00
Bird scaring	193	96.00
Harvesting	198	99.00
Total	Multiple Responses	

Source: Field Survey 2009

The result of the regression model is presented in Table 3. The variables included in the regression model are gender, educational level, seed inputs, land ownership status, farm size, fertilizers and herbicides. The table revealed that 69.8% of the variation in the number of youths involved was explained by the variable included in the model. The regression result further showed that the coefficient of age, education, farm size, capital investment and land ownership were statistically significant at 5% level, while the coefficients of gender, seed inputs, fertilizers and herbicides applications were not statistically significant. Majority of the respondents in the study area were within the highly productive age range of 20–50 years level of formal education and other variables in the model have positive relationship with rice production by youths in the study area. The implication of the positive sign of the coefficients is that any increase in the amount of these variables will equally increase rice output. The impact of seed input, fertilizers and herbicides were not significant. This is primarily because the quantity applied per hectare on the average falls short of the recommended rate because of high costs of the inputs. Also given the low financial base of these youths, coupled with their erroneous believes, many of them could not even apply these inputs in their respective farms. Nevertheless, the sign of the coefficients were positive because, it is expected that output has a direct relationship with the amount of these inputs used. An increase in these inputs would obviously result to an increase in output, *ceteris paribus*. The result also showed that the capital investment had a positive and significant effect on output. This indicates that the more the capital the youths invest in rice production, the more output they realize.

Table 3: Estimate determinant of rice productive resources available to youths

Characteristics	Coefficients	Standardized Error	T-ratio significant
Gender	0.0514	0.0310	1.658 NS
Age	10.1011	0.0912	1.109*
Educational level	10.3802	0.1310	2.521*
Seed inputs	0.1534	0.0904	1.697 NS
Land ownership status	0.4608	0.3110	1.482*
Capital Investment	0.5318	0.4913	1.082*
Farm size	0.0641	0.0359	1.786*
Fertilizers	0.0321	0.0146	2.199 NS
Herbicides	0.0402	0.0281	1.431 NS

Source: Computer Analysis, 2009 Note: R² = 0.698 * = Significant at 5% NS = Not significant

Table 4 showed data analysis on constraints facing youth farmers participation in rice production. These constraints include poor capital base (X = 4.8), use of archaic implements (X = 4.5), lack of extension contacts (X = 4.7), incidence of pests and diseases (X = 4.2), lack of improved inputs (X = 4.4) and bad attitude to farming (X = 4.9). The analysis reveals that lack of all the variables are positive and have significant effects on youths in rice production. However, bad attitude to farming, poor capital base and lack of extension contacts had the highest statistics means.

Table 4: Constraints facing children and youths in rice production in the area of research.

Variables	Very Effective	Moderately Effective	Effective	Fairly Effective	Not effective	Statistic mean (x)
Poor Capital base	165	20	15	-	-	4.8
Use of archaic implements	140	35	15	10	-	4.5
Lack of extension contacts	150	30	20	-	-	4.7
Incidence of Pests and diseases	180	100	4	16	-	4.2
Lack of improved inputs	105	60	55	35	-	4.4
Bad attitude to farming	190	5	5	-	-	4.9

Source: Field Survey 2009

CONCLUSION AND POLICY IMPLICATIONS

The findings of this research indicate that youths can be guided and helped to contribute their quota to food sufficiency through involvement in practical agriculture in the country. They can be very important structure for land agrarian reform which will go a long way towards promoting the interest of youths in the agricultural sector of the

economy. The research further showed that these young farmers in the Western Agricultural Zone of Nasarawa State not only provide a major resource base in food production, but also contribute substantially to rice production. The youths should be given enough protection and security by feeding them properly and providing them with improved rice varieties and other inputs to boost rice farming; government should enforce a policy of establishing farms in all learning institutions and such be allowed to organize youth farmers' clubs and other agricultural programmes that could motivate the young ones. The crusade is necessary to uphold and further present farming attributes from total atrophy and extinction. For the future growth of agriculture in Nigeria, the youths require pragmatic and adaptive approaches to farming, therefore government should provide adequate extension staff and modern farming implements and other farm inputs for sustainable agriculture. Policies aimed at providing loans to youths in agriculture should be put in place by the government and donor agencies. This will help reduce rural-urban drift and encourage self employment. Farm inputs should be readily available to the farmers since farming is time bound. Finally, youths should be empowered with the necessary legislation and infrastructure to reposition them for increased rice production and food sustainability which would go a long way in ensuring food security for the country.

References

- Adedoyin, S.F. (2005), "Youth and Children Programme in Nigeria" in Agricultural Extension in Nigeria. (ed Adedoyin, S.F.) 251Pp.
- Adeniyi, J.P. (1987): Costs and Returns in production and business environment, Vol.5; Nos, 1-2, Pgs.12-13.
- Akinbile, L.A; Hussain, L.A. and Yekini, O.T. (2008): CD/CBO participation in Community Base Poverty Reduction Projects in selected Communities in Ekiti State. *Journal of Nigeria Rural Sociological Association Vol. 8 (1), August, 2008*, Pp 41 – 47.
- Akpokodje, G.F., Hamcon and Eresntein, O. (2001): Nigeria's Rice Economy, state of the Act. In the Nigerian Rice Economy in a competitive world: Constraints and strategic choices. Final report presented to West African Rice Development Association (WARD), bounce, Cote d'ivoire, 53 pp.
- FAO (1986): *The dynamics of Rural poverty*, FAO c/o UNO, Rave 1986, Pgs. 7, 15.
- Folade, A.S. (2001): Research and Policy Issues for Children-In-Agriculture Programme – Paper presented at the 4th Annual Research work meeting conference of Children-In-Agriculture Programme (CIAP), Pg. 3.

- Idiong, C. Idiong, Damian, J. Aguw and Susan B. Ohen (2006): Comparative Analysis of Technical Efficiency in Swamp and Upland Rice Production System in Cross River State, Nigeria. Proceedings of Farm Management Association of Nigeria (FAMAN), September, 18th – 21st 2006, Jos, Plateau State. 30-38 pp.
- Nwachukwu, I.N, N.M. Agwu and C.I. Ezeh (2008): Comparative study of consumer purchase attitude of Local and Foreign Rice in Abia State, Nigeria in proceedings of the 42nd Annual Conference of the Agricultural Society of Nigeria (ASN), Pg. 764.
- Nwachukwu, I. (2008): Youth Development for Agriculture and Rural Transformations in Nigeria. Proceedings of the 7th Annual Congress of the Nigeria Rural Sociological Association held at NRCRI, Umudike, 19th – 22nd August, Pp 11-14.
- Obinne, C.O.P., Obasi and O.N. Agbulu (1998): Research and Policy Issues for Children-In-Agriculture, Book of Proceedings of the 4th Annual Research Network meeting and Conference of Children-In-Agriculture Programme (CYIAP), Pg.3.
- Oni, S. A. and Ikpi, A.E. (1979): “Rice Production and Marketing in Nigeria”. An Econometric Analysis, WARDA, SD/79/17.
- Onuekwusi, G.C. (2003): Youth Programme in Extension and Development. In Nwachukwu and Onuekwusi G.C; Agricultural Extension and Rural Sociology. Snap Press Enugu Pp. 197 – 214.
- Ovwigho, B. O. and Ifie, P.A. (2004): Principles of Youth Development- *A reference Manual for developing countries*. Excel Publisher Lagos.
- Ukonu, J.O.J. (2001), Women In Agricultural Research, Extension and Education. In O. Busari (ed) proceedings of the 42nd Annual Conference of STAN. PP. 237 – 240.
- UNICEF (2008): Draft Country Programme Document Nigeria E/ICF/2008/P/L7
UNICEF Enugu