



Youths' Involvement in Rice Production in Bende Local Government Area of Abia State, Nigeria

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Conflict of interest

The authors declare no conflict of interest of any kind in the study

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ACO=45% (Conceptualization, reporting, content review)

ACF=35% (Data collection, coding, analysis, reporting)

AEA=20% (Supervision, content review)

Abstract

The study ascertained the level of youths' involvement in rice production activities in Abia State, Nigeria. A total of 80 respondents from Bende Local Government Area rice cluster was purposively selected because of their high level in rice production in the State. Data were collected using a structured interview schedule and were analysed using mean, standard deviation and regression. The study revealed that youths were into land clearing ($\bar{x}=2.00$), raising of nursery ($\bar{x}=2.00$), buying and selling of rice seedling ($\bar{x}=2.00$) and planting of seedling ($\bar{x}=2.00$). Access to credit ($t=-2.57$) and number of extensions visit ($t=2.46$) significantly influenced youths' involvement. Youths were constrained mainly by lack of capital to scale up production ($\bar{x}=2.98$), poor support from government ($\bar{x}=2.73$), poor access to improved seedlings ($\bar{x}=2.49$), high cost of production ($\bar{x}=2.34$),

climatic factors ($\bar{x}=2.10$) and lack of information on agricultural business opportunities ($\bar{x}=2.08$). Youths were involved in rice production though, occasioned by lack of access to credit and extension visit. Extension should increase the frequency of visit to at least once in a month to allow for more productive engagement and should expose youths to lucrative opportunities in rice production coupled with linking them to available credit options that can meaningfully support their activities.

Introduction

The substantial youth population coupled with the growing unemployment rate have become issues of global discuss (International Labour Organisation, 2020). Nigeria is not exempted from these discussions as the nation's youth pollution and unemployment stand at 80,287,948 and 53,689,941, respectively (National Bureau of Statistics, 2020). The figures reflect the population of Nigerians within the age category of 18 and 35 years (NBS, 2020) although, on the matter of employment, the youth categorization goes as high as 40 years. This population, which should have positively impacted the nation's economy has led to increased youth restiveness and a high crime rate in the country due to high unemployment and underemployment (Bello et al., 2021a; Fasakin et al., 2022). The situation is so because the energy and innovative prowess of the youths are not being well garnered and channelled to appropriate areas of productive ends.

Agriculture is a vast space that should engage many youths but it is being viewed by most people as an occupation for the old, retirees and the elderly in society owing to the crude practices used in the field (Bello et al., 2021a; Dawodu & Olagunju, 2022). Notwithstanding these views, records hold that many developed countries today achieved industrialization through agricultural development (Dawodu & Olagunju, 2022). The active participation of youth has been seen as a potent means for growth in the sector (Sadiq et al., 2019). So, involving young people in the sector, which is typified by the ageing labour force, is essential to guarantee long-term food security, reduce economic-induced migration and lower unemployment. Young agro-entrepreneurs could build thriving businesses and address the issue of feeding a population that is constantly growing in a country like Nigeria by utilizing the innovative potentials of youths, new methods and technologies in agriculture, and taking advantage of new opportunities in emerging value chains (Food and Agricultural Organisation, 2019).

The government of Nigeria in efforts to make the vocation attractive to the young has introduced different agricultural packages that could be considered to be youth friendly and can easily elicit youth involvement (Bello et al., 2021a; Premium Times, 2020,11,10). Rice production is one of the areas that have witnessed government intervention in recent times (Agboola et al., 2021). This is due to the importance and central place of rice in the Nigerian Economy; being one of the most consumed staple food (Bello et al., 2021b; Sadiq et al., 2019) and the huge foreign exchange expended on its importation. In 2021, the nation's rice production rose to 5 million MT as against 4.89 million MT in 2020 (United States Department of Agriculture, 2022; Premium Times, 2022,1,5). Rice is also widely cultivated across all the agroecological zones in Nigeria of which Abia State is part (Bello et al., 2021b; USDA, 2022).

Owing to the foregoing, it then becomes pertinent to assess the activities of youth in rice production in the State, the level of their involvement as well as the constraints faced by youth in rice production. This could inform the government on how to better pursue its self-reliance policy on rice production (Mba et al., 2021; Agboola et al., 2021) from Abia State as no detailed information exists in the literature. The study hypothesized that there is no significant relationship between some of the socioeconomic characteristics of the youths and their involvement in rice production activities.

Methodology

The study was conducted in Abia State. The State is located on Latitude: 5° 25' 51.2112" and Longitude: 7° 31' 29.0064" and has an estimated population of 4,265,920 (Nigerian Informer, 2022). Bende Local Government Area, being the major rice-producing cluster in Abia (Mba et al., 2021) was purposively selected for the study. A total of 80 rice farmers between the ages of 18-40 years were sampled from the four wards using the snowball sampling technique. Primary data were collected using a structured interview schedule.

To ascertain the activities of youth in rice production, respondents were asked to indicate the activities they were into on a three-point Likert-type scale with responses as "always involved (2), rarely involved (1), never involved (0)". The values on the three-point Likert-type scale were added up to give 3, which was further divided by 3 to give a mean score of 1.0. Hence, any rice production activity with a mean score of 1 and above was regarded as an activity that youth were involved in, whereas mean scores less than 1 were regarded as activities that youths were not into. Youth involvement scores were obtained by summing up all the response options across all the rice production activities that were presented while the general level of involvement was determined by taking the average of the mean scores of all the rice production activities.

To identify the constraints faced by youths in rice production; a four-point Likert-type scale of "to no extent", to a little extent, to a great extent, to a very great extent" with values of 0,1,2,3 respectively was used. The values were added up to give 6, which was further divided by 4 to give a mean score of 1.5. Any constraint with a mean score equal to or higher than 1.5 was regarded as a constraint affecting youths in rice production while a mean score less than 1.5 was regarded as not a constraint.

Strategies for improving youth involvement in rice production were measured using a four-point Likert-type scale of "strongly agree (3), agree (2), disagree (1), strongly disagree (0) with a mean of 1.5. Such that anyone with a mean score of 1.5 and above was considered as a strategy while anyone with a mean score less than 1.5 was not a strategy.

The hypothesis was tested using a multiple linear regression model with youth involvement as the dependent variable while age, sex, marital status, level of education, access to credit and number of extension visits were the independent variables. Data were analysed using mean, standard deviation and regression.

Results and Discussion

Activities of Youth in Rice Production

Table 1 shows the activities of youth in rice production. The overall mean ($\bar{x}=1.12$) reveals that youth were significantly into rice production. Specifically, they were involved in land clearing ($\bar{x}=2.00$), raising of rice nursery ($\bar{x}=2.00$), buying and selling of rice seedlings ($\bar{x}=2.00$), planting of rice seedlings ($\bar{x}=2.00$), use of manual labour for harvesting ($\bar{x}=2.00$), drying of harvested rice grains ($\bar{x}=1.96$), steam heating of paddy rice during parboiling ($\bar{x}=1.95$), application of herbicide for weed control ($\bar{x}=1.89$), marketing ($\bar{x}=1.84$), application of pesticides for pest control ($\bar{x}=1.65$), bagging ($\bar{x}=1.56$), soil tilling ($\bar{x}=1.24$) and total drenching of paddy rice during parboiling ($\bar{x}=1.10$).

The involvement of youth in various rice production activities could mean that they were born and socialized into farming and might have developed sufficient ruggedness and skills needed for farming right from their tender age. It could also be attributed to extension visits, though poor ($\bar{x}=1.16$ in a year; Table 2) but have the capacity to initiate or stimulate the youths into considering job options in agriculture. Lack of access to credit might also have pushed the youths into taking or accepting job offers in their environment that could fetch them cash for their upkeep; this is so because lack of access to credit has a significant influence on youth involvement as captured in Table 2. The activities the youths were involved in were mainly those that will not put financial stress on them.

Youth involvement in rice production can increase production as fresh energy, innovation, creativity and enthusiasm that is associated with youths will be on display. This will go a long way in positively affecting food availability, accessibility, affordability, and even the nation's foreign reserves as export will be promoted instead of importation. The findings support that of Sadiq et al. (2019) that youths were into rice production activities like land clearing, ridging, parboiling, harvesting, drying, pest control and weeding. The authors reported irrigation and nursery establishment as activities that youths were not mainly into in rice production. That notwithstanding, Sharma et al. (2019) corroborate the findings on the need for nurseries by stating that the rice nursery business is a win-win concept for both farmers and entrepreneurs as it provides seasonal employment opportunities for rural women and youths, and a viable solution that secures crop establishment by providing affordable healthy seedlings at the appropriate time. Irrigation had the least mean score ($\bar{x}=0.01$). This may be due to the associated cost of irrigation, as supported by the result of Sadiq et al. (2019) where irrigation scored the lowest in youth activities in rice production.

Table 1: Activities of youth in rice production

Variables	Mean	Standard deviation (n=80)
Land clearing	2.00*	0.00
Soil tilling/ridging	1.23*	0.85
Raising of rice nursery	2.00*	0.00
Buying/selling of rice seedlings	2.00*	0.00
Planting of rice seedlings	2.00*	0.00
Application of fertilizer	0.53	0.86
Water management (irrigation)	0.01	0.11
Application of pesticide for pest control	1.65*	0.75
Application of herbicide for weed control	1.89*	0.45
Use of manual labour for harvesting	2.00*	0.00
Use of machines for harvesting	0.05	0.27
Drying of harvested rice grains	1.98*	0.22
Threshing of harvested rice	0.05	0.31
Total drenching of paddy rice during parboiling	1.10*	1.01
Steam heating of paddy rice during parboiling	1.95*	0.31
Milling	0.13	0.49
De-stoning of rice	0.13	0.49
Bagging	1.56*	0.82
Total	20.23	
Grand mean	1.12*	

Field Survey, 2021

*Significant

Influence of Socioeconomic Factors on Youth Involvement in Rice Production

The results in Table 2 show that there was a significant relationship ($F=2.50$; $p\leq 0.05$) between the socio-economic factors of the youths and their involvement in rice production activities. Specifically, access to credit ($t=-2.57$) and the number of extensions visit ($t=2.46$) had a significant influence on youths' involvement while age ($t = 1.74$), sex ($t = -0.01$), marital status ($t=-0.94$) and level of education ($t=-0.97$) were not significant.

The adjusted R Square (0.10) which is an estimate of R Square for the population shows that 10% of the variance in youth involvement in rice production is explained by the variables included in the regression model.

Explicitly, access to credit influenced youths' involvement, though with a negative t-value ($t=-2.57$). This implies that lack of access to credit increases the chances of youths' involvement in rice production. They participate more when there is no credit due to a quest to meet personal needs. This supports the findings of Fasakin et al. (2022) that access to credit decreases the likelihood of youths' engagement in agriculture. Though this negates the a priori expectations the result is not unconnected with the fact that youths tend to channel or divert credits to other productive ventures other than agriculture when the opportunity presents itself; as many see agriculture as an option for the old and elderly in the rural areas (Dawodu & Olagunju, 2022). Efficient monitoring of funds given to youth for agriculture may change the narrative.

The number of extensions visit ($t=2.46$) positively influenced youth involvement in rice production. This implies that the more extension agents visit youths, the higher the tendency for youths to get involved in rice production activities. The finding corroborates that of Bello et al. (2021) that training, which is a vital component of extension, influences youth participation in agri-business positively. This could be linked to the fact that extension helps the young in breaking the inertia associated with choosing a career path in agriculture by moulding their behaviour through proper training, education and guidance.

Age, sex, marital status and level of education had no significant ($p>0.05$) influence on youth involvement. This implies that these variables do not add significantly to the ability to predict youth involvement in rice production. Although, this negates the findings of Sadiq et al., (2019) that age significantly influenced youth involvement in rice production but marital status has no significant influence.

Table 2: Influence of socioeconomic factors on youth involvement in rice production

Variables	Unstandardized coefficients		Standard coefficients	t-value
	B	Standard error	Beta	
(Constant)	21.47	2.25		9.53
Age	0.11	0.07	0.24	1.74($\bar{x}=31.63$)
Sex	-0.01	1.12	-0.00	-0.01
Marital status	-0.87	0.92	-0.13	-0.94
Level of education	-1.04	1.08	-0.11	-0.97
Access to credit	-2.75	1.07	-0.28	-2.57*
Number of extension visits	0.59	0.24	0.28	2.46*($\bar{x}=1.43$)

Adjusted $R^2=0.10$; F-value=2.50; * $p\leq 0.05$; (n=80)

Constraints to Youth Involvement in Rice Production

Table 3 shows that the constraints faced by youths include a lack of capital to scale up production ($\bar{x}=2.98$), poor support from the government ($\bar{x}=2.73$), inadequate access to credit facilities ($\bar{x}=2.55$), poor access to improved seedlings ($\bar{x}=2.49$), high cost of production ($\bar{x}=2.34$), climatic factors ($\bar{x}=2.10$), lack of information on agribusiness opportunities ($\bar{x}=2.08$), high cost of irrigation ($\bar{x}=1.99$), unavailability of labour ($\bar{x}=1.98$), the wrong perception of agriculture ($\bar{x}=1.80$), high cost of mechanization ($\bar{x}=1.79$), poor access to market/market information ($\bar{x}=1.53$) and high post-harvest losses due to poor storage facilities ($\bar{x}=1.51$). The result infers that youths are facing lots of setbacks in rice production. This is in agreement with the findings of Sadiq et al. (2019) that youths in rice production are constrained by inadequate machines for processing, poor storage facilities and high cost of production.

Lack of capital and inadequate credit facilities, in particular, implies that youths could be challenged in acquiring tools, inputs, and other facilities needed to compete favourably in rice production. This is a known fact that capital is one of the major drivers of productive ventures globally (Churchill & Marisetty, 2020; Raifu & Aminu., 2019).

Poor support from the government shows that the needed policy environment and support for massive subscription and sustenance of youths' interest in agriculture may not be efficient or be non-existent. This is because a functional policy can build faith and hope, thereby delivering transformational change in any sector. A working agricultural policy will keep youth in the rural areas where agricultural activities take place the most instead of encouraging rural-urban migration which is the situation in the nation today; Shikur (2020) made a similar submission.

Climatic issues are critical problems rice farmers face and have little or no control over. Rice farming is done once a year because of a lack of irrigation facilities, and due to fluctuating weather, such as shorter duration of rainfall, rice farmers suffer losses resulting from low productivity either as a result of planting too early before the rain or too late (Ali, 2021).

Lack of information is a great obstacle to growth. Youths lack adequate information about agribusiness and this could be the major contribution to their apathy in agriculture, as many feel that agriculture involves hard labour with little returns. Some others see it as a dirty profession that involves wearing unclean robes and continuous soiling of one's hands. This is consistent with the opinion of Bello et al. (2021a) that youth sees agriculture as a profession for the aged. Lack of information could also keep youths away from available agricultural programmes and incentives that can lessen financial burdens and expand production.

The cost involved in irrigation has proven to be one of the major setbacks for youths in rice production, as it limits their ability to have more than one cycle of production in a year, given their energy endowment. Aside from the aforementioned, irrigation can address the issues associated with erratic rainfall patterns if available. Installing irrigation heads coupled with readily available water could be so high for a young farmer. This is in agreement with Sadiq et al. (2019) who pointed out that youths were not into irrigation due to its cost and complexity.

Post-harvest loss is among the big issue confronting youths in agriculture as many lack the needed storage facilities and processing techniques and facilities which can be leveraged for better market decisions.

Table 3: Constraints to youths' involvement in rice production

Variables	Mean	Standard deviation (n=80)
Lack of capital to scale up production	2.98*	0.16
Poor access to agricultural lands	1.25	0.68
High cost of irrigation	1.99*	0.46
Wrong perception of agriculture	1.80*	0.75
Lack of information on agribusiness opportunities	2.08*	0.50
Poor access to improved seedlings	2.49*	0.53
High cost of production	2.34*	0.48
Unavailability of labour	1.98*	0.69
The problem of pests, weeds and diseases	1.39	0.80
Poor access to market/market information	1.53*	0.66
Climatic factors	2.10*	0.54
High post-harvest losses due to poor storage facilities	1.51*	0.78
High cost of mechanization	1.79*	0.71
Inadequate access to credit facilities	2.55*	0.50
Poor support from the government	2.73*	0.50

*Significant

Strategies for Improving Youth Involvement in Rice Production

Table 4 shows the identified strategies for improving youth involvement in rice production. These include: credit for agriculture should have a longer repayment duration (\bar{x} =2.78), proper and comprehensive training on rice production (\bar{x} =2.64), easy access to credit with zero or little interest rate (\bar{x} =2.71), subsidizing agricultural inputs like fertilizer, pesticide etc. (\bar{x} =2.71), provision of infrastructure that supports rice production (\bar{x} =2.65), sensitization and encouragement of youths to participate in rice production (\bar{x} =2.21), targeting government empowerment programme on rice production among youth (\bar{x} =2.16), creation of a working linkage between farmers and rice buyers (\bar{x} =2.10), governments should maintain the sale of locally produced rice in the country through a working policy (\bar{x} =2.05), provision of easy and accessible agricultural land (\bar{x} =2.04), effective and comprehensive insurance policy (\bar{x} =2.00), and enforcing practical agriculture curricula in secondary schools and colleges (\bar{x} =2.00). The identified strategies can go a long way in addressing the constraints faced by youth in rice production if implemented. This is because the matters around the needed skills, information, confidence, motivation, capital and functional policy for youth involvement in rice production would have been handled to a reasonable degree. The curriculum reform can empower the youth with the mind-set to start seeing every empty land as a gold field to be explored while the right credit environment will be the pulling or attracting factor to mine. Working policy framework will serve as a protective guard against business hostility, diminutive and mortality while at the same time building hope and faith for a better future for the youths.

Table 4: Strategies for improving youth's involvement in rice production

Variables	Mean	Standard deviation
Proper and comprehensive training in rice production	2.64*	0.48
Easy access to credit with zero or little interest rate	2.71*	0.46
Credits for agriculture should have a longer repayment duration	2.78*	0.42
Subsidizing agricultural inputs like fertilizer, pesticide etc.	2.71*	0.46
Governments should maintain the sale of locally produced rice in the country	2.05*	0.22
Effective and comprehensive insurance policy	2.00*	0.00
Enforcing practical agriculture curriculum in secondary schools and colleges	2.00*	0.00
Government's empowerment programmes on rice production targeting youth	2.16*	0.37
Provision of easy and accessible agricultural land	2.04*	0.19
Sensitization and encouragement of youths to participate in rice production	2.21*	0.41
Creation of a working linkage between farmers and rice buyers	2.10*	0.30
Provision of infrastructures that support rice production	2.65*	0.48

*Significant

Conclusion and Recommendations

Youth involvement in rice production was influenced by access to credit and the presence of extension contacts. Their involvements were constrained by numerous factors such as lack of capital, poor access to inputs, lack of access to information, high production cost, and unfavourable climatic condition among others. The extension services should increase the frequency of visits to at least once a month to allow for more productive engagement with youths and should expose the young entrepreneurs to lucrative opportunities in rice production as well as link them to available credit options that can meaningfully support their activities. The policy framework for rice should be strengthened and holistically implemented by agents of governments like a custom to allow for increased and rewarding participation of youths towards realizing the nation's self-sufficiency in rice production.

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