



## **ANALYSIS OF THE FACTORS INFLUENCING AGRICULTURAL STUDENTS' WILLINGNESS TO PARTAKE IN AGRIPRENEURSHIP IN NORTH-WESTERN NIGERIA**

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### **ABSTRACT**

The study examined agricultural students' willingness to become agripreneurs after graduation in North Western Nigeria. Multi-stage sampling technique was used in selecting 361 respondents for the study. Data were collected through the use of questionnaires and analysed using both descriptive and inferential statistics. The results revealed that most (95.6%) of the respondents indicated their willingness to engage in agripreneurship after graduation. The results also revealed that 23.7%, 16.7% and 12.7% indicated that agriculture provide self-employment, provide employment opportunities and already engage in it as their reasons for engaging in agripreneur after graduation. Sex, departments of agricultural technology and pasture and range management, type of residence (peri-urban and urban) market access and expected income ( $p = 0.023$ ,  $p = 0.012$  and  $p = 0.023$ ,  $p = 0.013$  and  $p = 0.033$ ,  $p = 0.024$  and  $p = 0.019$  respectively) were found significant in influencing the willingness of the respondents to partake in agripreneurship after graduation. Attitude, perception and aspiration were significant ( $P < 0.05$ ) in influencing respondents willingness to engage in agripreneurship after graduation. It was concluded that majority of agricultural students were willing to take part in agripreneurship after graduation and the spirit of willingness showed by the respondents is an indication that many of them will embrace one agricultural enterprise or the other after graduation. Hence, recommended that government should establish more agricultural industries so as to employ the willing youth and provide opportunities for land ownership for youth to enable them participate more in agripreneurship.

**Keywords:** Agricultural, Students, Willingness, Agripreneurship, Graduation

### **INTRODUCTION**

Nigeria's Agricultural policy is targeting food security, import substitution to mitigate the massive food import and conserve foreign exchange, job creation and enhancing economic diversification and growth. These objectives can be achieved if agriculture is run as a business (Uche and Familusi, 2018). This is critical to job creation, economic diversity, and sustainable economic growth (Ado, 2017). Uche and Familusi (2018), explained Agripreneurship as an application of entrepreneurship principles in agriculture. Agripreneurship is important "for the survival of small-scale farming in an ever-changing and increasingly complex global economy" (Kahan, 2013). This then implies that Agripreneurship is a necessity for socio-economic enhancement through creation of agribusinesses, development of agricultural commodities value chains and the overall economic growth. A paradigm shift from agriculture to agripreneurship is essential to rejuvenate the Nigerian agriculture with a view to making it a much more attractive and profitable enterprise (Uche and Familusi, 2018). Nigeria's population is currently over 200 million based on the latest United Nations estimates (World meters, 2019). More than two-thirds of this population constitutes youths who should be actively engaged in productive agricultural enterprises that will lead to food sufficiency in the country (Eneji *et al.*, 2013). Youth are strong and possess abundant energy that needs proper channeling and harnessing for increased agricultural production (Ogunbameru, 2001). Farming serves as a tool for providing employment opportunities for graduates thereby alleviating poverty and youth delinquencies (Saliu *et al.*, 2016).

Even though over 70% of Nigeria's land is arable, Nigerian youths are not encouraged to see farming as business (Azeez, 2017). They assumed agriculture to be a low-tech venture that has limited dynamics and embarked on by smallholder rural farmers who are less innovative (Uche and Familusi,



2018). Agriculture has been left in the hands of peasant farmers who employ traditional implements for most of their farm operations. For Nigeria's agriculture to regain its lost glory of ensuring food security and relevance in the world economy through exportation, the aged farmers need to be replaced with vibrant and educated youth who are able to meet up with global technological development that will lead to increased agricultural productivity (Ojebiyi, *et al.*, 2015). According to the International Labor Organization (ILO) (2014), youth agripreneurship could be the missing link to address the challenges of poverty and unemployment experienced by many young people especially in developing countries.

In the context of this study willingness is the extent to which an individual is prepared to partake in agripreneurship. Willingness is influenced by attitude, past behaviour, and the actor prototype associated with the behavior (Gibbons *et al.*, 1998). Leo and Elisabeth (1998) stated that it is assumed that the performance of a stated willingness will depend on situational and contextual variables which function either facilitating or impeding. Gibbons *et al.* (1998) explained that people's willingness is the most proximal predictor of their behaviour.

In analogy to the *Rubicon Model*, cf. of 'willingness for continuous commitment' (WCC) Heckhausen and Gollwitzer (1987) as cited by Leo and Elisabeth (1998) explained that two phases are distinguished: a motivational (or pre-decisional) and a volitional (or post-decisional) phase. During the motivational phase the WCC is built up ("Principally, I am willing to do x!") triggered by cognitions, attributions, judgments, emotions related to responsibility, efficacy and normative convictions, and further predictors. During the volitional phase this willingness is converted into corresponding manifest behavioral decisions. It is not expected that every expressed WCC is carried out. The actual implementation should depend on *situational and contextual variables* that have a much larger effect during the volitional phase than during the motivational phase (Heckhausen and Gollwitzer, 1987) in (Leo and Elisabeth, 1998). It is not expected that every expressed WCC is carried out. The actual implementation should depend on *situational and contextual variables* that have a much larger effect during the volitional phase than during the motivational phase (Heckhausen and Gollwitzer, 1987) in (Leo and Elisabeth, 1998).

Though youths have desirable qualities and capabilities that can promote agriculture production activities, most of them do not want to participate in it (Butler *et al.*, 2007). This has resulted in mass unemployment and lack of sustainable livelihood activities among the youths (Breitenbach, 2006) but nowadays the situation is changing. For example, a study by Ojebiyi *et al.* (2015) found that majority (85.7%) of the students were willing to venture into agriculture-related enterprises after graduation. This implies that higher proportion of the agriculture students in FUNAAB will practice their profession after graduation. While a study by Akintayo and Lawal (2017) found that 49.0 percent of the respondents showed willingness to practice agriculture after graduation. So also, a study by Martin *et al.* (2017) showed that 67% of their respondents were willing to enter into agribusiness after graduation as a self-employment venture. The results from these studies showed that the students have the spirit of willingness to engage in agripreneurship after graduation. The objective of this study was to examine agricultural students' willingness to become agripreneurs after graduation in North Western Nigeria. The specific objectives were to assess the agricultural students' willingness to become agripreneurs and examine the factors influencing agricultural students' willingness to venture into agripreneurship in North Western Nigeria after graduation.

## **METHODOLOGY**

The study was conducted in the tertiary institutions of North-Western (NW) geopolitical zone of Nigeria. This comprises of seven States namely: Katsina, Kano, Kaduna, Kebbi, Jigawa, Sokoto and Zamfara States as shown in Figure 1. The region is located between latitude 9°10'N and 13°50'N and longitude 3°35'E and 9°00'E. The zone is blessed with population of 35,786,944 million (National Population Commission (NPC) 2006) with a growth rate of 3.2 percent and a projected population of 55,621,203 million by 2020 (NBS 2012) and remains an agricultural hub for Nigeria with a huge proportion of its population in the agricultural sector (Ekpa *et al.*, 2017). The zone's vegetation consists of Northern Guinea Savannah and Sudan Savannah, a vegetation belt covering most parts of

the zone stretching from the Sokoto plains in the west, through the northern sections of the central highland. This zone is a very general mix of food and cash crops, stretching across Sokoto, Kebbi, Zamfara, Katsina, Kano, and Jigawa states, with associated husbandry of sheep, goats, and cattle (Ahmed, 2019). It constitutes the main source of fodder and grazing land for livestock, and therefore supports large numbers of cattle and other domestic animals (Abaje *et al.*, 2013). The main source of livelihood of the people in this zone is agriculture. Livestock such as cattle, goats, sheep, and poultry farm like chicken, turkey, pigeon and ostriches are produced and the livestock are reared extensively (Ekpa *et al.*, 2017).



**Figure 1:** Map of Nigeria Showing North West Geopolitical Zone  
Source: Map Gallery, Ahmadu Bello University, Zaria, 2019

### Sampling Procedure and Sample Size

Multi stage sampling technique was used for this research work. In the first stage random sampling was used in selecting three states (Kano, Jigawa Kaduna and Katsina) from the study area. In the second stage, Federal universities within the States and one Monotechnic/Polytechnic offering Agriculture were selected from each State selected. Lastly, all final year agricultural undergraduate students in Faculty/ College/ School of agriculture were used from each institution selected (Table 1).

**Table 1:** Study Population and Chosen Sample Size (N=627)

States	Institutions	Number of final year agricultural students	Retrieved	Percentage
Kano	BUK	225	148	65.8
Jigawa	HAFEDPOLY	126	67	53.2
Kaduna	ABU	132	54	40.9
	SCA/DAC	57	30	52.6
Katsina	FUDMA	50	25	50.0
	HUKPOLY	37	37	100.0
<b>Total</b>	<b>6</b>	<b>627</b>	<b>361</b>	<b>57.6</b>

**Note:** BUK = Bayero University Kano, HAFEDPOLY = Hussaini Adamu Federal Polytechnic Kazaure, ABU = Ahmadu Bello University, SCA = Samaru College of Agriculture, FUDMA = Federal University Dutsenma, and HUKPOLY = Hassan Usman Katsina Federal Polytechnic.



### Data Collection and Analysis

Data were collected through the use of questionnaire which were administered to the respondents by the researcher. Both descriptive and inferential statistics were employed in analysing the data collected. Descriptive statistics such as frequency, percentage, means, standard deviation were used for the study. Also, binary logistic regression analysis was used to analyse the factors influencing agricultural students' willingness to venture into agripreneurship.

### Logistic regression

#### Binary logistic regression

Logistic regression is used for modelling binary outcome variables such as willing and unwilling. It is assumed that the binary response,  $Y$ , (willingness) takes on the values of 0 and 1 with 0 representing *unwilling* and 1 representing *willing*.

The logistic regression function models the probability that the binary response is as a function of a set of predictor variables  $\beta_0 + \beta_1 x_1 + \dots + \beta_p x_p$

Letting  $Y$  be the binary response variable, it is assumed that  $P(Y = 1)$  is possibly dependent on  $\bar{x}$ , a vector of predictor values. The goal is to model:

$$p(\bar{x}) \equiv P(Y = 1 | \bar{x})$$

Since  $Y$  is binary, modeling  $p(\bar{x})$  is really modeling  $E(Y | \bar{x})$ , which is what is done in OLS regression, with a numerical response.

$$p(\bar{x}) = \frac{\exp(\beta_0 + \beta_1 x_1 + \dots + \beta_p x_p)}{1 + \exp(\beta_0 + \beta_1 x_1 + \dots + \beta_p x_p)}$$

Where  $\exp$  is the exponent function, sometimes written as  $e$

$\beta$  = A factor of unknown coefficients

$x_1 \ x_2 \ \dots \ x_p$  : Independent variables

$p$ : The number of independent variables

$X_1$ =Age

$X_2$ =Sex

$X_3$ = Department

$X_4$ = Description of place of residence

$X_5$ = Parent's occupation

$X_6$ = Access to Market

$X_7$ =Access to land

## RESULTS AND DISCUSSION

### Respondents' Willingness to Engage in Agripreneurship after Graduation

It was observed from Table 2 that most (95.6%) of the respondents indicated their willingness to engage in agripreneurship after graduation, while only few (4.4%) of them showed no willingness of engaging in agripreneurship after graduation. This showed that majority of them were willing to engage in agripreneurship after graduation. This could be as a result of previous experience and training obtained in agriculture, as thus, stated by Gibbons *et al.* (1998) that people's willingness is the most proximal predictor of their behaviour. This result agrees with Ojebiyi *et al.* (2015) who indicated that majority (85.7%) of the students were willing to venture into agriculture-related enterprises after graduation. They concluded that higher proportion of the agriculture students in FUNAAB are likely to practice their profession after graduation. This also agrees with Barau and Adesiji, (2018) who found that most of the agriculture undergraduates have the will to participate in agripreneurship but not as primary occupation. The result is contrary to Akintayo and Lawal (2017) who found only about forty-nine per cent (48.75%) of the students indicated willingness to practice agriculture after graduation. The implication is that the development of willingness is a sign of positively aspiring mindsets towards agripreneurship which could lead to actual implementation.



**Table 2: Respondents' Willingness to Engage in Agripreneurship after Graduation (n = 361)**

Willingness to Engage in Agribusiness	Frequency	Percentage
Yes	345	95.6
No	16	4.4

### **Respondents' Reasons for Willingness to Engage in Agripreneurship**

The results Table 3 showed that about 9.3% of the respondents reason for willingness to engage in agripreneurship after graduation was that agripreneurship is lucrative, 23.7% stated that they want to be self-employed and also be an employer, 7.2% indicated that agriculture is my hobby, 16.5% mentioned that agriculture provides employment opportunities without depending on government was their reason, 12.7% of them said it was because they were already engaged in it and so are experienced farmers, because I have the knowledge and understanding of how to go about agribusiness was the reason for 8.7%, while because I want to apply the knowledge I gained in the business and put my knowledge in to practice, because I want to make enough money and benefit from agribusiness and agripreneurship is a passion to me, were the reasons for 10.1%, 7.2% and 4.3% respectively. It was revealed that 'I want to be self-employed and also be an employer' got the highest response. This result is in agreement with Ojebiyi *et al.* (2015) who discovered that the most important factor responsible for agriculture students' willingness to venture into agriculture-related enterprises is the students' desire to be job creators (mean value = 1.81) followed by their desire to be self-employed (mean value = 1.76). In another study Barau and Adesiji, (2018) found that "I want to translate my formally acquired knowledge into practice, I want to create job opportunities through my profession and I want to be my own boss in sustainable agriculture or agriculture-related business" ranked 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>, respectively. This result is also consistent with the findings of Akintayo and Lawal (2017) who stated that self-employment, financial independence and viable business opportunity were the major reasons given by the students for their willingness to practice agriculture after graduation. This implies that agricultural students are ready to be self-employed and employers of labour which could ultimately result in reduction of youth unemployment.

**Table 3: Respondents' Reasons for Willingness to Engage in Agripreneurship (n = 345)**

Reasons for Willingness	Frequency	Percentage
Agripreneurship is lucrative	32	9.3
I want to be self-employed and also be an employer	82	23.7
Agriculture is my hobby	25	7.2
Agriculture provides employment opportunities without depending on government	57	16.5
Because I am already engaged in it	44	12.7
I have the knowledge and understanding of how to go about agribusiness	30	8.7
I want to apply the knowledge I gained	35	10.1
I want to make money from agribusiness	25	7.2
Agripreneurship is a passion to me	15	4.3

### **Factors Influencing Respondents' Willingness to Venture into Agripreneurship**

As it is observed from Table 4 (Hosmer and Lemeshow Test) for the goodness-of-fit test statistics, since P-value is 0.141 greater than the level of significance at 0.05%. This indicate the fitness of the model.

**Table 4: Hosmer and Lemeshow Test**

Step	Chi-square	df	Sig.
1	36.124	8	0.141



The results of binary logistic regression analysis as indicated in Table 5 showed that socio-economic characteristics were significant predictors of respondents' willingness to engage in agripreneurship. Sex was positive and significant ( $\beta = 0.324$ ,  $p = .023$ ) predictor of likelihood of the respondents expressing willingness to engage in agripreneurship. The odds ratio indicated that, male respondents were more likely to be willing to engage in agripreneurship than their female counterpart. This is contrary to Alexandrina *et al.* (2019) who found that women students were more inclined to start a business than men.

The coefficient for department of agricultural technology and pasture and range management were found positive and significant ( $\beta = 0.267$ ,  $p = 0.012$  and  $\beta = 1.500$ ,  $p = .023$  respectively) in influencing respondents' willingness to engage in agripreneurship. The odds ratios indicated that respondents in the department of agricultural technology and pasture and range management were more likely to engage in agripreneurship than respondents in agricultural economics by a factor of 0.267 and .654 respectively. This result is contrary to Amegnaglo *et al.* (2014) who found that students in agronomy who are directly involved in agriculture are less willing to embrace agricultural career in the future. The implication is that if professionals are fully involved in agriculture there could be improvement in method of production and knowledge dissemination.

Type of residence contributed to the model as shown in Table 5. It was a significant predictor of probability of respondents' willingness to engage in agripreneurship at 0.5% level of significance. Peri-urban was positive and significant ( $\beta = 1.185$ ,  $p = 0.013$ ) predictor of respondents' willingness to engage in agripreneurship. The odds ratio indicated that respondents who resided in the peri-urban area were more likely to engage in agripreneurship than respondents who resided in rural area by a factor of 1.185. Coefficient of urban was positive and significant ( $\beta = 0.642$ ,  $p = 0.033$ ) predictor of respondents' willingness to engage in agripreneurship at 0.5% level of probability. Given that the odds ratio is = 0.642 means respondents who resided in the urban area were more likely to be willing to engage in agripreneurship than respondents who resided in the rural area, and the odds for urban is 0.642 times that of the odds for rural.

**Table 5:** Factors Influencing Agricultural Students' Willingness to Venture into Agripreneurship

Variables (Predictors)	$\beta$	S.E	Sig.	Exp.( $\beta$ )
Sex	.324	.684	0.023**	1.206
Department			0.346	
Agric Extension	18.693	25.237	0.682	65.119
Agronomy	1.336	1.132	0.238	3.802
Animal science	1.043	1.163	0.370	2.839
Crop protection	1.013	1.237	0.413	2.755
Plant Science	1.494	2.111	0.761	6.519
Soil Science	9.147	6.151	0.562	4.923
Agric Technology	0.267	.696	0.012**	1.306
Forestry Technology	0.654	8.884	0.653	9.479
Pasture and Range Management	1.500	1.206	0.023**	4.483
Type of Residence			0.032	
Peri Urban	1.185	.796	0.013**	.272
Urban	0.642	.660	0.033**	1.901
Market Access	0.825	.716	0.024**	.282
Access to Land	0.219	.580	0.706	1.244
Expected Income	1.602	.492	0.019**	.974
Attitude	.762	.652	0.043**	.142
Perception	.453	.390	0.045**	.573
Aspiration	-.691	.466	0.038**	.501
Constant	.154	2.795	0.956	1.167

**Note:** \*\*\*P < 0.01, \*\*P < 0.05, S.E = Standard Error,  $\beta$  = Coefficient.

Market access contributed to the model as shown in Table 5. It was positive and significant ( $\beta = 0.825$ ,  $p = 0.024$ ) predictor of likelihood of the respondents expressing willingness to engage in



agriprenurship at 0.5% level of probability. The odds ratio indicated that for every unit increase in access to market the odds expressing willingness increased by a factor 0.825. The finding agrees with Kising'u (2016) who found that proximity to market to influence majority (54%) of the youth to engage in marketing agricultural produce. The coefficient of expected income was positive and significant ( $\beta = 1.602$ ,  $p = 0.019$ ) predictor of respondents' willingness to engage in agriprenurship. The odds ratio indicated that respondents who expected higher income would more likely be willing to engage in agriprenurship by a factor 1.602. It was indicated that for every unit increase in income expectation the odds expressing willingness increased by a factor 1.602. This agrees with Silva *et al.* (2010) who found that for majority of the people, the most important consideration in choosing jobs is the remuneration, i.e. the wages or salary. The result is in line with Cheteney (2016) who found that resources was significant at 10% ( $P = 0.075$ ) level of probability but confirmed by the odds ratio, Cheteney (2016) found that when resources are raised by one unit the odds ratio is 9 times as large and therefore youth are 9 times likely to participate in agriculture when resources are increased.

It was found that attitude, perception and aspiration were significant predictors of respondents' willingness to engage in agriprenurship. The coefficient of attitude was positive and significant ( $\beta = 0.762$ ,  $p = 0.043$ ), respondents' perception was positive and significant ( $\beta = 0.453$ ,  $p = 0.045$ ), the coefficient for aspiration was negative and significant ( $\beta = -0.691$ ,  $p = 0.038$ ) predictors of respondents' willingness to engage in agriprenurship. The odds ratio indicated that respondents' positive attitude and perception would more likely be willing to engage in agriprenurship by a factor 0.762 and 0.453 respectively. It was indicated that for every unit change in attitude and perception the odds expressing willingness increased by a factor 0.762 and 0.453. It was indicated that for every unit increase in aspiration the odds expressing willingness decreased by a factor 0.691. The odds ratio indicated that students would less likely aspire to be willing to engage in agriprenurship by a factor 0.691, this finding contradicted Nwankwo, (2015) who found that a greater no of the students showed negative perception of agriculture. However, the study was in consonance with Zakaria, (2013) who found that respondents generally have a positive perception about the potential of agribusiness as an avenue for self-employed enterprise creation for them and that they see themselves succeeding in agricultural enterprises upon graduation. These findings are also consistent with Cheteney (2016) who found that attitude towards agriculture has a significant influence on youth interest in agriculture. This is also in line with Baliyan and Nenty (2015) who found that attitudinal factors are significant predictors of students' willingness to enrol in agriculture. The implication is that there could be more increase investment in agriculture by the youth which could ultimately improve food production.

## **CONCLUSION AND RECOMMENDATIONS**

The study revealed that most of the respondents were willing to take part in agriprenurship after graduation. Sex, departments of agricultural technology and pasture and range management, type of residence (peri-urban and urban) market access and expected income were found significant in influencing the willingness of the respondents to partake in agriprenurship after graduation. The spirit of willingness showed by the respondents is an indication that many of them will embrace one agricultural enterprise or the other after graduation.

The following recommendations were made based on the findings:

- i. Opportunities should be created by the Government by empowering the willing students who want to be self-employed and also be an employer of labour, so as to establish their own business to reduce the rate of unemployment in the North-west zone and Nigeria at large.
- ii. Opportunities for land ownership should be provided for youth by the government to enable them participate more in farm production and processing of agricultural produce.
- iii. Sustainable access to markets is required to guarantee smallholders an increase in income and to lift them out of poverty, and the demand in international food markets is growing. Hence, final year agricultural students should link up with the international markets to increase their access to market for their produce and reduce dependent on local markets.



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