

**Impact of Entrepreneurship Education on Rural Women's Farmers
Empowerment in North Eastern Nigeria.**

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Abstract

Rural women farmers in northeastern Nigeria confront significant obstacles to economic empowerment due to restricted access to, education, vocational skills and decision-making autonomy. This study investigates the influence of entrepreneurship education in promoting economic empowerment among rural women farmers in the region. The objectives are to assess the existing level of entrepreneurial education and training, as well as to identify the obstacles and possibilities that come with empowering rural women through entrepreneurship education. The study uses a quantitative approach, with data collected via a survey with 1,146 respondents using a five-point Likert scale questionnaire in both hardcopy and the Kobo Collect tool. Data analysis included descriptive and inferential statistics, as well as structural equation modeling (SEM) using AMOS software. The study found that entrepreneurship education greatly empowers rural women farmers, with a t-value of 0.730 and a standardized beta (β) of 0.736. Training and skill development that are important components of entrepreneurial knowledge for rural women, leading to enhanced productivity, income levels, and decision-making autonomy ($R^2 = 0.70$). The study finds that focused entrepreneurship education, and assistance have a substantial impact on the economic empowerment of rural women farmers. Recommendations include increased engagement of government and non-governmental organizations in delivering skill acquisition programs and vocational training to boost agricultural production and profitability among rural women farmers in Northeastern Nigeria,

Keywords: Skill acquisition, Agricultural Training, Economic, Empowerment, Entrepreneurship Education, Northeastern Nigeria, Rural Women.

Introduction:

Rural women play an important role in agricultural productivity and the economic growth of their communities. Rural women are highly involved in farming operations in many areas of the world, particularly in developing countries such as Northeastern Nigeria, where they contribute considerably to food security and household income (Amusan *et al.*, 2021). Considering their valuable contributions, these women typically face a number

of challenges that restrict their productivity and economic empowerment (Jabeen *et al.*, 2020). These problems include limited access to training, vocational skills, funding, agricultural inputs, and technology, as well as socio-cultural and gender-based bias that prevents them from fully participating in farming activities (Sasa *et al.*, 2022). Moreso, various efforts have been launched by the government, non-governmental organizations, and international authorities to address these concerns and promote the empowerment of rural women in the region. Programs have been created to give training, entrepreneurial education and skill acquisition for rural women farmers, but their impact has frequently been restricted owing to persistent socioeconomic and cultural constraints (Ghouse *et al.*, 2017). As a result, rural women in Northeastern Nigeria continue to confront severe challenges that prohibit them from obtaining economic independence and reaching their full potential (Sasa *et al.*, 2022).

Furthermore, empowerment is a crucial tool to attain this national objective, entrepreneurial education and training (Alao & Alao, 2021). As the phrase goes, teaching a male kid educates an individual; educating a girl child educates a community, nation, and the entire globe (Agusiobo, 2018). However, women empowerment is regarded as an expression of individual choice and self-reliance within existing systems, rather than a subject that requires investigation of the underlying restraints (Afrin, 2024). Hence, entrepreneurship education seeks to provide women with the information, skills, and drive to support entrepreneurs in a variety of settings, particularly those involved in local enterprises and agriculture (Semkunde *et al.*, 2022). The core of empowerment is to reduce or rather eliminate a higher level of ignorance among women (Kabeer, 2020).

In addition, the training provided in Nigerian schools and colleges to promote entrepreneurialism is insufficient owing to poor facilities and limited possibilities for practical experience, and qualified agricultural experts typically leave the field to seek alternate careers (Francis *et al.*, 2019). Nevertheless, acquiring entrepreneurship training is not necessary required for an individual to be successful, it does provide a significant benefit in improving their chances of success as an entrepreneur (Boldureanu *et al.*, 2020). Hence, training is still targeted and focused toward a specific target, whereas education is all-encompassing, therefore significant progress must be made toward the goal of educating women to become entrepreneurs in order to boost economic growth and development (Mofuoa, 2022). Despite its potential, the entrepreneurial training given in Nigerian schools and institutions remains inadequate due to poor facilities and limited practical chances (Sanusi, 2022).

Entrepreneurship education is acquiring information, skills, and attitudes that enable the entrepreneurs to recognize opportunities in whatever shape and take immediate action to realize new trends and chances for solving those challenges in a dynamic world (Jardim, 2021). Entrepreneurship education encompasses all activities geared toward developing entrepreneurial mindsets, attitudes, and abilities, as well as a wide variety of topics such as idea creation, start-up, development, and innovation (Hanandeh *et al.*, 2021). Similarly, the Consortium for Entrepreneurship Education argued that entrepreneurship education is a lifelong learning process that spans elementary school, higher education, and adult education, and is viewed as a panacea for a variety of social and economic issues (Häg & Kurczewska, 2022).

The primary objective of entrepreneurship education in this context is to continually create an entrepreneurial culture among rural women farmers, not only to inculcate entrepreneurial educate creating vocational skills and also help women in maintaining feasible (Aljuwaiber, 2021). Entrepreneurship education equips individuals (women) with the entrepreneurial mindset, vocational skills and insights required to identify, recognize, uncover, research, and capitalize on viable agricultural business opportunities (Mukembo *et al.*, 2020). Entrepreneurial education in the context of this study teaches women, particularly young women, how to better understand modern agriculture, hence encouraging profit and self-sufficiency (Singh *et al.*, 2022). It provides women with the opportunity to get trained and instructed in the skills required to run a farm enterprise, as well as to determine whether manpower or technology (machines) to hire for faster and higher output (Galvão *et al.*, 2020)

This study investigates the impact of entrepreneurship education on rural women's farmer empowerment in Northeastern Nigeria. A significant area of study in the field of training, vocational skills, innovative education is agriculture and entrepreneurship. In addition, the major purpose of this study is to enable rural women understand and use entrepreneurial behaviors, skills, and attitudes in a variety of settings for economic development.

Literature Review

Entrepreneurship education encompasses a wide range of activities aimed at fostering entrepreneurial mindsets, attitudes, and skills (Rosário & Raimundo, 2024). It includes aspects such as idea generation, startup, growth, and innovation. Entrepreneurship Education, is a lifelong learning process extending from elementary school through higher education and adult education (Hägg & Kurczewska, 2022). However, the emphasize is the primary goal of entrepreneurship education, to build capacity for understanding and pursuing entrepreneurial behaviors, skills, and attitudes in various contexts. Mukembo *et al.*, (2020) argue that entrepreneurship education provides individuals with the skills and insights needed to identify and capitalize on agricultural business opportunities.

Rosário and Raimundo, (2024) examined sustainable Entrepreneurship Education, based on new capacities that will allow us to deal with the current chaotic changes is critical. Entrepreneurs with sustainable concerns are seen to play an important part in the process by developing creative, proactive, and risk-assumption solutions that are both environmentally and economically beneficial. Hence, there is no agreement on what skills school should give in order to produce sustainable businesses capable of dealing with sustainability concerns. This piece of literature sought to identify relevant variables for sustainable entrepreneurship education. The review found 61 empirical and non-empirical studies on sustainable entrepreneurship education (SEE). Data research showed a variety of approaches for sustainable entrepreneurship education (SEE) designed for use in both higher education institutions and secondary schools.

Boldureanu *et al.*, (2020) examined entrepreneurship education through successful entrepreneurial models in higher education institutions. *Sustainability*, the design and practice of entrepreneurship education, but there is limited focus on context in entrepreneurship education literature. The objective of this paper is to review the

entrepreneurship education literature to understand how context has been addressed, derives contextual elements from prioritized literature and explores how context can be adapted to and designed with in entrepreneurship education. A systematic literature review is undertaken to explore context in entrepreneurship education literature. Context entrepreneurship education yielded 239 items. After refinement, 232 entrepreneurship education associated publications were reviewed by the team of authors. Using selection criteria, 26 prioritized publications were analyzed and categorized according to a theoretical framework. The findings assert that while context is highly influential in relation to entrepreneurship education, it is arbitrarily described, and holds a variety of documented and diffuse elements. Educators have a limited span of control in relation to context elements, however, for the most parts elements can be adapted to or designed with. Finally, due to the influence of context it is difficult to identify a universal best practice of entrepreneurship education because there simply is no *ceteris paribus*.

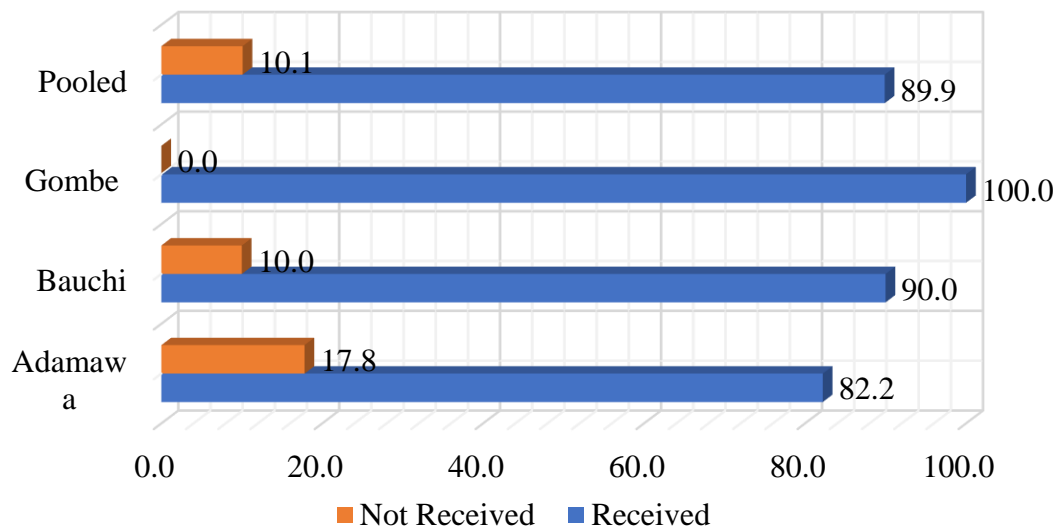
Hanandeh *et al.*, (2021) examined the impact of entrepreneurship education on innovative start-up intention: the mediating role of entrepreneurial mind-sets. Entrepreneurship education at universities aims to create entrepreneurial thinking and spread the culture of entrepreneurial awareness, skills and attitudes to students to stimulate their entrepreneurship intentions as graduates. This study investigates the impact of entrepreneurship education on innovative start-up intention as well as the mediating role of entrepreneurial mind-sets of university students. Structural equation modeling (SEM) was used for analysis with ($n = 204$) valid questionnaires collected from university students. The main findings show that entrepreneurial mind-sets mediate the relationship between entrepreneurship education and innovative start-up intention.

Methodology

This study employs a quantitative research technique, using a survey design to collect data from rural women farmers in Nigeria's northeastern states of Gombe, Bauchi, and Adamawa. The study's goal is to analyse these women's levels of entrepreneurial education and training, participating in empowerment efforts, and agricultural operations. Data were acquired through surveys and questionnaires. The Kobo Collect tool was utilized to improve data gathering, enabling for effective response collecting even in places with inadequate network coverage. Surveys were conducted in 2024. The study's target group was rural women farmers. The Krejcie and Morgan technique was used to calculate a total sample size of 1,146 respondents. The study employed a multistage cluster sampling approach to ensure representation from different rural regions and to improve the dependability of the findings. The study focuses on two variables in entrepreneurial education: vocational training and skill acquisition. The acquired data was examined using both descriptive and inferential statistics. The study used a regression model and Structural Equation Modeling (SEM) to investigate the relationship between entrepreneurial education and rural women's empowerment. These models contributed to a better understanding of the influence of education and training activities on social and economic empowerment. The study's model formulation used SEM to investigate the hypothesized correlations between entrepreneurial education variables (vocational training and skill acquisition) and rural women's empowerment aspects (social and economic).

Results

Figure 1 illustrates the training levels in entrepreneurship education among rural women in the surveyed states. In Gombe state, all respondents received training, while 90% in Bauchi and 82.2% in Adamawa were trained. The results indicate that most rural women farmers in Northeastern Nigeria benefit from entrepreneurship training provided by government agricultural support programs and non-governmental organizations (NGOs). These organizations offer skill acquisition programs and vocational training, focusing on risk management and productivity improvement. The rural women in the North eastern states indicated their level of entrepreneurship education and training, participation in empowerment initiatives and involvement in farming. The responses as presented in Figure 1, are described in the section below.



Source: Field Survey, 2024

From Figure 1, all the respondents in Gombe state had been trained in entrepreneurship education, while 90% of respondents in Bauchi had been trained and 82.2% of the respondents in Adamawa were also trained in entrepreneurship education. The result's implications indicate that the majority of rural women farmers in Nigeria's Northeastern states received entrepreneurship training from government agricultural support programs and non-governmental organizations (NGOs). These organizations offer skill acquisition programs and other vocational trainings on farming, focusing on how they manage and avoid certain risks in order to increase and improve production and profit in the region. This supports Adeyanju *et al.*, (2021) claims that, the significance of training in improving the performance of young agripreneurs and suggesting the need to encourage and out-scale programmes such as the Fadama GUYS, both in Nigeria and elsewhere in Africa as they can contribute to better performance of youth-owned agribusiness firms.

Table 1: Reliability results for Entrepreneurial Education

Item s	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Correcte d Item- Total Correlati on	Squared Multiple Correlati on	Cronbac h's Alpha if Item Deleted
EE1	15.79	3.418	.436	.197	.711
EE2	15.90	3.609	.518	.319	.674
EE3	15.92	3.619	.533	.325	.669
EE4	15.92	3.596	.514	.273	.675
EE5	15.93	3.572	.473	.253	.691
Cronbach's Alpha			0.730		
Cronbach's Alpha based on standardized items			0.736		
Number of items			5		

Source: Field Survey, 2024

Table 1, revealed that the result of reliability test for the entrepreneurial education variable (EE). Based on the result, the overall Cronbach's alpha (α) value 0.730 which is greater than the cut-off value of 0.70 (Mansor *et al.*, 2022), hence classified to be a good degree of reliability. This implies that the entrepreneurial education construct (EE) data set is reliable and suitable for the SEM analysis. It is also crucial to examine Cronbach's alpha (α) “if items deleted” given by standardize value of 0.736. since there are only 0.006 differences from the original overall, standardize Cronbach alpha (α), it is thus essential to retain all the measurements items in the construct.

Discussion

The result of the hypothesis, which stated that, there is no significant relationship between entrepreneurial education and rural women empowerment in North Eastern Nigeria is presented in the study, revealed in that the estimated coefficient ($\beta = 0.042$) was significant at p-value of less than 0.05 and had positive relationship. Therefore, entrepreneurial education of the rural women had positive and significant relationship with their empowerment. Thus, the null hypothesis was rejected and supported as against the null hypothesis. The positive impact of entrepreneurship education on rural women's farmer empowerment is evident, as it provides them with the skills and knowledge needed to manage farm businesses effectively and increase productivity. The findings support Adeyanju *et al.* (2021), who highlight the significance of training in improving the performance of young agripreneurs. Through community awareness campaigns, entrepreneurship education acts as a catalyst and modifies public opinions of farming (Haryanto *et al.*, 2021). Rural women who get the information and abilities associated with entrepreneurship education can start and run their own small enterprise (Rudhumbu *et al.*, 2020). Training in farm management, market connections, and access to/control over resources, rural women have a shift in knowledge and perception of agriculture (Colecraft *et al.*, 2022), the programs (SWOFON) enable women to drive economic and social transformation in their communities, producing extremely lucrative and beneficial results (Adeyeye, 2022). Entrepreneurial education has a positive effect on rural women in small and medium-sized farms, enticing more women to farming owing to the ease of labor and increase profit margins compared to traditional farming (Rahaman *et al.*, 2023).

Research findings indicate that rural women and their families enjoy more financial security as a consequence of increased improve knowledge in farming activities (Singh *et al.*, 2022). Program participants that prioritize agripreneurship and leadership development have reported improvements in household nutrition, higher wages, creativity and better farming techniques (Mulupi *et al.*, 2023). Also, government, NGOs and stakeholders, offer skill acquisition programs and other vocational trainings on entrepreneurship, focusing on how they manage and avoid certain risks in order to increase and improve production and profit in Northeastern Nigeria (Deshmukh *et al.*, 2023). However, entrepreneurial education and training is significant, improving the performance of women farmers and suggesting the need to encourage and out-scale programmes such as SWOFON training, Agriculture extension programmes etc. As supported by, (Adeyanju *et al.*, 2021). Therefore, results of the study revealed that most rural women farmers in Northeastern States Nigeria's participate in empowerment initiatives that support agricultural activities that enhance farm management and machine operation, improving their farming productivity and profitability and also helping them to acquire the desired outcomes. In order to meet Nigeria's food security, sufficiency, and increase in domestic food production.

Conclusion

Entrepreneurship education plays a vital role in empowering rural women in Northeastern Nigeria. By equipping them with entrepreneurial mindset, skills and knowledge, that enables them to improve their local enterprises, agricultural productivity and profitability. In terms of educational attainment, the findings revealed that the majority of respondents had not achieved much in terms of educational qualifications, female farmers are positively affected by entrepreneurship education, our findings indicated that basic education had a positive link with female farmers, both participants and non-participants relied heavily on ideas or information gained via informal education, training, vocational skill learning, and extensive agricultural labor experience. Entrepreneurial education has a positive effect on rural women in small and medium-sized farmers, enticing more women to farming owing to the ease of labor and increase profit margins.

Recommendations.

It is essential that the government and NGOs focus and increase assistance for girl-child education in the region. Additionally, rural women should get frequent training and awareness programs on new agricultural technology, hybrid seeds, and animal management. More vocational centres dedicated to providing women with business skills outside conventional farming techniques are critical. These projects should attempt to fit with global farming norms, allowing rural women to participate in large-scale production and obtain worldwide recognition for their efforts model specification.

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