

Reading and Writing in the English Language: A Pre-requisite for Farm Productivity and Food Security Among Women Farmers in Imo State, Nigeria

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Abstract

Literacy is important in all areas of human endeavor, including farming/agriculture. Farm people especially women who spend most of their times feeding families need to read and write to perform in the occupation of farming. The paper investigates the influence of reading and writing English Language for increased farm productivity and food security. Multi-stage sampling technique was used in selecting a total of 120 women farmers from various communities of Imo State, Nigeria. Questionnaire and oral interview were used to collect data from the respondents. Descriptive tools were used to analyze data. Results showed a moderate level of literacy among the women as seen in ability to fill agricultural forms in English (M=2.33), ability to read & understand farm manuals (M=2.45) and confidence in speaking English (M=2.39). Literacy influence farm productivity when a farmer reads farm manuals and applies the instruction (M=3.08), contributes to better farm decisions (M=3.15), improves farm planning (M=3.00), adopts modern farm techniques (M=3.12), prevents misuse of chemicals (M=3.09). Women with higher literacy understands training manuals (M=3.08), engages actively during workshops/seminars (M=3.10), understands weather information (M=3.07), reduces risks of misinformation (M=3.15). Literacy also influence food security by avoidance of food wastages (M=3.34), improves resilience and food stability (M=3.40), improves dietary quality and household health (M=2.38), leads to higher income (M=3.33), promotes household food distribution (M=3.39). The challenges facing women farmers due to limited literacy includes: limited access to agricultural information (38.2%), limited opportunity to participate in programmes (25.3%), difficulty accessing credit (24.1%), poor communication skills (54.1%), limited market access (30.8%). To address the challenges, adult literacy programs, use of indigenous languages, formation of cooperatives, and capacity building for empowerment be pursued vigorously.

Introduction

Farming shapes much of Nigeria's economic backbone, supporting countless rural families while anchoring efforts to feed

the nation. Right in step, women lead across fields, markets, and storage units - especially visible in places such as Imo State where

family-run plots dominate the landscape. Yet even with their deep involvement, barriers pile up around them, quietly limiting what they can grow or sell. One barrier stands out though rarely gets attention: poor reading skills, particularly in English - the very tongue used in schools, official messages, and outreach about new farming tools. Knowing how to read and write in English opens doors to up-to-date farming know-how - things like expert advice, better growing methods, weather forecasts, plus ways to sell crops. Because most help programs, official rules, and learning chances come in English, women who can't read well often miss out (Aker, 2011). Without reading ability, it becomes hard to understand guides on improved seeds, soil nutrients, or dealing with bugs that harm plants - tools that boost harvests (FAO, 2017). Being literate also helps growers connect with banks, shared business groups, online platforms. Lately, farm support has shifted toward phones and web apps, yet using them well means being able to read and write at a basic level (Asenso-Okyere & Mekonnen, 2012). Because many women who farm in Imo State cannot read or write English, chances to improve their lives slip away. Getting enough good food depends heavily on how well farming works

there. With basic reading abilities, female growers understand when to plant, how to store harvests, and where to sell crops more effectively - this means more meals at home and money earned. Learning to read also leads to healthier eating; those who can often choose a wider mix of foods for their families. Since most farms in the region depend on old methods and small-scale work, teaching literacy alongside farming techniques makes sense. Missing this step keeps hardship going across generations. Farmers often speak their native tongues, yet when meetings shift to English, many women fall behind - held back not only by language but also unequal chances to own property or borrow money. Speaking plainly helps some, though knowing English can open doors usually kept shut, especially for those tilling soil without diplomas or bank accounts. Real change starts quietly, through lessons after harvest, voices rising where silence once ruled.

Even though women do much of the farm work in Imo State, they are not producing as much as they could. One reason lies in how hard it is for them to understand written English. Most details about farming - like advice from experts, government rules, teaching booklets, or data on markets - come only in English. Without

strong reading skills, many female farmers miss out. They struggle to learn better ways to grow crops, handle pests and sickness in plants, adjust when weather shifts, or use tools after harvest. What gets left behind isn't just knowledge - it's progress. Because of this, lots of women still rely on old-style farming ways that usually grow less food and struggle when weather gets tough (World Bank, 2019). On top of that, poor reading skills make it harder for them to join farm training, get loans, or take part in official markets. Unequal chances in school only deepen the problem. In rural Imo State, cultural norms and money issues have often blocked women from proper schooling - so they tend to read and write at lower rates compared to men. Not knowing enough slows how well many can use new farming tools and advice. On top of that, digital help like phone apps and text tips makes things harder when skills are low. Because more info now comes through messages or websites in English, those who cannot read or write miss out completely. Left behind, they stay disconnected from better methods that might increase harvests and meals at home. So looking closely at how reading in English shapes results on farms matters a lot here. Seeing this link clearly helps shape

plans that fit real lives - where learning and growing food meet.

This work rests on key ideas - farming progress, lifting up women, and steady access to food. It steps into empty space left by earlier studies, linking English reading skills to better harvests and meals for female growers. Even though past efforts looked at crop results and unequal treatment between genders, almost none followed the thread from language skill to real-life effects. New understanding here could guide those shaping rules and field programs, showing why knowing English matters deeply. Farmers who learn to read and write tend to do better when it comes to growing crops - this idea hits harder where farming shapes daily survival. Government groups, aid organizations, and local farm advisors might want to pay attention, particularly across villages in Imo State and similar areas. Instead of treating schooling and crop work separately, blending them could bring real change. Behind this shift sits a quiet force: women gaining basic knowledge helps them step into bigger roles along every stage of food production. Their voices grow stronger at home, too - not just in fields, but around kitchen tables and community meetings (UN Women, 2018). When someone reads well, their choices open up;

decisions about seeds, markets, meals become clearer, more deliberate. Because women so often control what gets planted and eaten, lifting their literacy lifts everyone's chances of having enough good food. Meeting worldwide aims like the SDGs - especially Zero Hunger and Gender Equality - fits into this picture. At last, the research becomes a steady guide ahead for work linking schooling, farming, and life in remote areas, while also offering down-to-earth ideas for outreach in agriculture that consider how well people can read.

Objectives of the Study

The main objective of this study is to examine the role of reading and writing in the English language as a prerequisite for enhancing farm productivity and food security among women farmers in Imo State, Nigeria. The specific objectives are to:

1. examine the level of English literacy among women farmers in Imo State.
2. ascertain perceived influence of English literacy and farm productivity among women farmers.
3. examine the influence of English literacy on access to agricultural information and extension services.
4. identify the perceived impact of English literacy on household food security among women farmers.

5. identify the challenges faced by women farmers due to limited English literacy.
6. ascertain strategies for improving literacy levels to enhance agricultural productivity and food security.

Methodology

Imo State is bordered by Anambra State to the north for 84 km (52 mi), Abia State to the east for about 104 km (partly in the vicinity of the Imo River), and Rivers State to the south and west for about 122 km. The state lies within latitudes 4°45'N and 7°15'N, and longitude 6°50'E and 7°25'E, with an area of around 5,100 sq km. The rainy season begins in April and lasts until October, with annual rainfall varying from 1,500 to 2,200 mm (59 to 87 in). An average annual temperature above 20 °C (68.0 °F), creates an annual relative humidity of 75% (IMSG, 2025; IMO ADP, 2019). With humidity reaching 90% in the rainy season, the dry season experiences two months of Harmattan, from late December to late February. The hottest months are between January and March. With high population density and over farming, the soil has been degraded and much of the native vegetation has

disappeared. This deforestation has triggered soil erosion, which is compounded by heavy seasonal rainfall that has led to the destruction of houses and roads. Imo is the third smallest in area, but is the fourteenth most populous, with an estimated population of over 5.6 million as of 2026 projected from 2022 official figure (NPC, 2022). Geographically, the state is divided between the Niger Delta swamp forests in the far east and the drier Cross–Niger transition forests in the rest of the state. Other key geographical features are the state's rivers and lakes with the Awbana, Imo, Orashi, and Otamiri rivers along with the Oguta Lake in western Imo State. The Imo state economy is highly dependent on agricultural production, especially the production of palm oil, which a majority of citizens rely on for cooking. A key minor industry is the extraction of crude oil and natural gas, especially in Imo's north and west. The study involved a sample of 120 women farmers drawn from three key agricultural zones within the state. To ensure a representative sample, a multistage sampling technique was implemented. Initially, the three agricultural areas—Owerri, Orlu, and Okigwe—were carefully chosen due to their significant roles in farming. Next, two Local Government Areas

(LGAs) were randomly selected from each zone, resulting in a total of six LGAs. Following this, two farming communities were randomly chosen from each LGA, yielding a total of twelve communities. From each community, ten women farmers were randomly selected, culminating in the total sample size of 120 participants. This method of sampling afforded a well-rounded distribution across the research area, thereby enhancing the generalizability of the findings to women farmers statewide (Kothari, 2004). Data collection comprised both primary and secondary sources. For primary data, a structured questionnaire was specifically developed for the study, which encompassed various aspects such as the respondents' English literacy levels (reading and writing skills), their access to agricultural information, indicators of farm productivity, and food security status. (FAO, 2018; NBS, 2020). This instrument included a mixture of closed-ended questions and a few open-ended ones to capture more nuanced responses. To ensure that all participants could engage effectively, trained research assistants conducted face-to-face interviews, translating the questions into the local language (Igbo) as needed, thus helping to reduce any potential bias in responses and ensuring comprehensive

understanding. In terms of secondary data, relevant documents, journals, textbooks, and reports from government entities and international organizations were consulted to bolster the study's foundation. For the data analysis, descriptive statistics such as frequency counts, percentages, were used to achieve objectives 5 and 6. While mean and standard deviation were employed to achieve objectives 1,2,3 and 4. These analytical tools provided a clear and concise insight into the distribution and patterns observed in the data. (Gujarati & Porter, 2009).

Results and Discussion

Level of Women Farmers English Literacy

Table 1 showed the indicators for measuring English literacy of the respondents. The discriminating mean (M) index of 2.50 measured certain abilities showing literacy level. The table indicated that the respondents has ability to read farm instruction in English Language (M=2.67), ability to write simple farm records (M=2.54), understanding agricultural information (M=2.65), ability to communicate very well with extension staff (M=2.48), ability to read market information

(M=2.68), interpreting pesticide instructions (M=2.53), and understanding radio/TV programmes in English Language. However, the respondents scored low in some critical areas very crucial for determining literacy level, these are: ability to communicate in English language (M=2.48), ability to fill agricultural forms properly (M=2.33), ability to communicate freely with Extension staff in English Language (M=2.48), confidence in speaking English (M=2.39), ability to understand farm manuals (M=2.48) and ability to fill agricultural forms (M=2.33). The challenge of English literacy among women farmers continues to be a pressing issue in many developing regions, especially across sub-Saharan Africa, where agriculture is central to both livelihoods and food security. In this context, English literacy refers to the ability to read, write, understand, and communicate in English—skills that are vital for accessing farming information, engaging with extension services, and participating in markets. Assessing literacy requires attention not only to

formal schooling but also to how well individuals apply reading and writing abilities to everyday agricultural activities. Studies show that a large proportion of women farmers have low to moderate English proficiency. In rural Nigeria, for instance, many women complete only primary education, if any, which limits their command of English—the official language used in agricultural outreach and policy communication (Aker, 2011; National Bureau of Statistics, 2020). This limitation affects their capacity to interpret written resources like instruction manuals, input recommendations, weather reports, and market updates. As a result, they often rely on spoken explanations or translations into local languages, which can lead to inaccuracies or delays (Ogunlela & Mukhtar, 2009). Functional assessments reveal that while some women can recognize simple English words, they frequently struggle with technical farming terms. According to the FAO (2017), rural women's literacy tends to be task-specific: many manage routine farming duties well but face

difficulties following written procedures or recording data in English. This gap is particularly evident in activities involving numbers and documentation, such as monitoring inputs, estimating harvests, or managing finances. Consequently, their ability to adopt new technologies and improved practices is constrained.

Socio-cultural and economic factors also significantly influence literacy outcomes. Longstanding gender disparities in education have disadvantaged women, especially in rural areas where early marriage, household responsibilities, and financial hardship reduce opportunities for schooling (UNESCO, 2018). Even when education is accessible, women often prioritize immediate income-generating work over long-term learning, reinforcing a cycle in which low literacy hinders productivity and earnings, which in turn limits future educational access. Another key factor is the delivery of extension services and training programs. These are often conducted in English, creating barriers for women with limited literacy. Research by Davis et al. (2012) shows

that extension efforts become less effective when the language used does not align with the audience's reading and comprehension levels. While field agents commonly use verbal instruction and practical demonstrations—methods that help—these do not fully substitute for the ability to independently read and refer to written materials. Literacy is typically measured in three tiers: low, moderate, and high. In most rural settings, the majority of women farmers fall into the low-literacy category, possessing only basic reading and writing skills.

A smaller group demonstrates moderate literacy, able to understand simple texts and straightforward directions. Only a small minority reach high literacy, enabling them to process complex information, use digital tools, and engage confidently in formal agricultural markets. This pattern reflects broader national trends, with rural women generally lagging behind urban residents and men in literacy rates (World Bank, 2021).

Interviews highlight the wide-ranging effects of limited English literacy. It

restricts access to modern farming techniques, reduces participation in agricultural value chains, and weakens communication with important actors such as government agencies, NGOs, and financial service providers. In today's increasingly digital farming environment—where information is shared through mobile applications and online platforms—English proficiency has become more critical. Women with poor literacy risk being left out of these advances, widening the gap in agricultural productivity. However, it's important to recognize that literacy development isn't solely dependent on formal schooling. Informal learning, community-based training, and knowledge sharing among peers also contribute meaningfully. Approaches that combine local languages with gradual English instruction have proven effective in improving understanding and retention among women farmers (Freire, 1970; Rogers, 2004). Such methods build on existing knowledge while progressively strengthening language abilities.

Table 1: Level of Women Farmers English Literacy

English Literacy Indicators	Mean	SD
Ability to read farm instruction in English	2.67	0.67
Ability to write simple farm records in English	2.54	0.81
Understanding agricultural information in English	2.65	0.43
Ability to communicate in English with Extension staff	2.48	0.62
Ability to read market information in English	2.68	0.80
Ability to fill agricultural forms in English	2.33	0.74
Interpreting pesticide instructions	2.53	0.94
Ability to read & understand farm manuals	2.48	0.79
Confidence in speaking English during trainings	2.39	0.65
Understanding radio/TV programs in English	2.73	0.83

Accepted Mean = 2.50. SD – Standard Deviation

Perceived Influence of English Literacy on Farm Productivity of Women farmers

Table 2 showed how English literacy bear on farm productivity. With a mean score of 2.50, it was observed that ability to read farm manuals improves farm productivity/yield (M=3.08). Farm manuals contain instructions to follow in farm for increase productivity. When farmers read the manuals and apply them, their farm does well. Understanding written instructions on fertilizer (M=3.05) improves yield. Instruction manuals on fertilizer bags contain information such as when to apply, quantity to apply, application methods, among others. Following the instructions contained in the manuals makes for increase yield. Literacy helps farmers adopt modern farming techniques (M=3.10). A literate farmer accepts changes and innovations for

the betterment of his farm and livelihood. Reading weather information improves farm planning (M=3.0). Information about weather helps prevent disaster related to weather, capable of affecting crop yield. Others include ability to communicate in English enhances access to extension services (M=3.13). Extension services educates, informs the farmer on new techniques and sources farm problems which improve productivity

English literacy significantly contributes to enhancing agricultural productivity, especially in developing countries where information on farming innovations, extension services, and market opportunities is often shared in English. For women and smallholder farmers, being able

to read, write, and comprehend English can strengthen their ability to adopt improved practices, manage resources wisely, and engage more effectively in agricultural systems. A key advantage is improved access to essential farming knowledge. Modern agriculture relies heavily on technical know-how related to seed selection, pest management, fertilizer use, and climate-adaptive techniques—information typically distributed through written materials like manuals, training documents, and digital platforms, most of which are in English. Farmers with stronger English skills are better equipped to grasp and apply this knowledge, resulting in higher yields and more efficient operations (Aker, 2011). In contrast, those with limited literacy may overlook or misinterpret critical details, negatively affecting their output.

Literacy also enhances the impact of agricultural extension programs, which commonly include training sessions, workshops, and printed resources delivered in English. Farmers who can read and write in English are more likely to fully benefit from both verbal and written components of these initiatives. As Davis et al. (2012) note, literate farmers are more capable of retaining information, maintaining records, and seeking additional knowledge

independently—skills that support informed decision-making and improved farm management. Keeping accurate records is another crucial aspect: managing inputs, outputs, expenses, and earnings requires systematic documentation. English literacy allows farmers to track data reliably, assess performance over time, and make strategic adjustments. For instance, they can monitor fertilizer application, study seasonal yield patterns, and refine planting schedules. This data-informed approach boosts efficiency, reduces waste, and supports sustained productivity improvements (World Bank, 2021).

Additionally, English proficiency broadens access to markets and financial services. Engaging in formal markets often involves reading contracts, interpreting price information, and communicating with buyers, suppliers, and banks—all of which require comprehension of English. Literate farmers are more likely to reach markets beyond their local areas, negotiate favorable terms, and meet quality standards. They are also better positioned to use banking services, apply for loans, and understand financial documents, all of which are vital for expanding their operations (FAO, 2017). Those lacking literacy often depend on intermediaries, which can lower profits and

restrict economic growth. Literacy similarly affects the adoption of modern technologies. Tools such as high-yield seeds, advanced irrigation systems, and mobile farming apps usually come with English-language instructions and technical specifications. Farmers who can read English are more likely to use these innovations correctly and effectively. Studies consistently show a strong connection between literacy and technology adoption, which in turn leads to increased productivity and income (Feder, Just, & Zilberman, 1985). In digital agriculture, English literacy is particularly important, as most online tools and mobile applications operate primarily in English.

Furthermore, literacy fosters better communication and collaboration among farmers. It enables participation in training, cooperatives, and knowledge-sharing events. Literate individuals can also access online discussion groups, research publications, and agricultural databases, extending their learning beyond local contexts. Exposure to diverse sources of information promotes innovation and helps improve farming methods (Rogers, 2003). However, while English literacy offers clear advantages, it is not the sole determinant of productivity.

Access to land, infrastructure, credit, and institutional support remains equally important. Even highly literate farmers need physical and economic access to inputs, financing, and markets to translate knowledge into real-world outcomes. Moreover, language barriers persist in regions where local languages are predominant. When agricultural information is only available in English, it risks excluding those who are not literate or do not speak English, reducing the effectiveness of outreach efforts (UNESCO, 2018). Despite these challenges, programs focused on improving English literacy in rural communities have demonstrated positive results. Initiatives such as adult education, farmer field schools, and community-based training that combine literacy instruction with practical agricultural skills have been especially effective. These programs not only build literacy but also deliver immediately useful knowledge, leading many participants to report higher productivity, increased incomes, and greater resilience to environmental and economic challenges (FAO, 2017a).

Table 2: Perceived Influence of English Literacy on Farm Productivity

Perceived Influence Statement	Mean	SD
Ability to read farm manuals improves productivity	3.08	1.06
Literacy contributes to better farm decisions	3.15	0.84
Understanding written instructions on fertilizer improves yield	3.05	0.94
Literacy helps farmers adapt modern farming techniques	3.10	0.87
Reading weather information improves farm planning	3.00	0.99
Ability to communicate well enhances access to extension services	3.13	1.01
English literacy helps in getting and understanding market information	3.07	1.04
Reading agricultural input labels prevents misuse of chemicals	3.09	0.94
Literacy aids access to online agricultural resources and information	3.05	0.84
Knowledge of government agricultural policies aids productivity	3.07	0.74
English literacy promotes participation in training programs	3.10	1.05
Literacy empowers farmers to network & collaborate	3.06	1.07
English literacy reduces farm errors	3.10	0.94

Accepted Mean = 2.50; SD – Standard Deviation

.Impact of English Literacy on Access to Agricultural Information

Table 3 showed that English literacy plays a crucial role in determining how effectively women farmers access, understand, and utilize agricultural information. In Nigeria, most formal agricultural communication is predominantly disseminated in English Language. Women with higher literacy understand training materials by extension staff (M=3.08), engage actively during workshops & seminars (M=3.10), literate farmers easily apply farm instructions (M=3.13), use and benefit from digital tools (M=3.07), understand pricing information easily (M=3.08), communicate with buyers beyond local markets (M=3.06), interpret farm contracts & agreements (M=3.10),

helps farmers understand weather information (M=3.07), easily asks farm questions (M=3.12), literacy reduces the risk of misinformation (M=3.15), and literate farmers do not depend on intermediaries (M=3.20). Farmers with strong English skills are better able to obtain agricultural information directly from original sources. In multilingual developing countries like Nigeria, where English is the primary language of education, government, and official communication, literacy in English plays a crucial role in accessing knowledge that can boost productivity and improve livelihoods. Being able to read and understand written materials allows farmers

to independently access vital resources such as technical guides, policy documents, and research bulletins issued by extension services, government bodies, and scientific institutions. Those proficient in English are more likely to comprehend expert advice and apply modern farming methods, including the use of high-yield seeds, fertilizers, and effective pest management strategies—practices shown to increase adoption rates among literate populations (Aker, 2011; World Bank, 2020). In contrast, farmers with limited English often rely on third-party interpretations or translated summaries, which may lack accuracy or completeness.

Access to digital tools and mass media also depends heavily on English literacy, as many online platforms, mobile applications, and digital services operate primarily in English or require basic reading ability. Literate individuals can leverage these technologies to access up-to-date weather forecasts, market prices, and expert guidance, supporting more informed decision-making. Research indicates that mobile-based agricultural services lead to improved farm performance among users who can read and navigate such systems (Mittal & Mehar, 2016). However, low literacy levels create a barrier to digital

inclusion, restricting access to technological advancements and deepening existing disparities.

Literacy further supports participation in training and educational programs, particularly those organized by governmental or international organizations, which frequently use English for instruction or materials. Farmers with stronger reading and comprehension skills are more likely to engage actively, ask questions, and retain knowledge, leading to better learning outcomes and practical implementation. As emphasized in Rogers' Diffusion of Innovations theory (2003), clear understanding and effective communication are key to adopting new practices, making literacy an important enabler in this process. Another significant benefit is enhanced access to markets and economic opportunities. Literacy enables farmers to analyze market trends, assess contracts, and engage with formal trading systems beyond local networks. In global agricultural trade, transactions commonly involve standardized forms and English-language correspondence. Proficient farmers are better positioned to negotiate favorable terms, meet quality standards, and comply with export regulations, potentially increasing their income and financial

resilience (FAO, 2018). Those with limited literacy, however, often remain restricted to informal local markets and reliant on intermediaries, typically placing them at a disadvantage.

Furthermore, English literacy improves understanding of climate-related data and adaptation strategies. Critical information such as weather predictions, scientific studies, and advisory notices is often published in English. Farmers who can interpret these materials are more likely to adjust their practices—such as modifying planting schedules or diversifying crops—in response to changing conditions. Evidence suggests that literacy increases awareness of climate risks and strengthens adaptive capacity (Nhemachena & Hassan, 2007).

Without adequate reading skills, farmers may miss timely updates, leaving them more exposed to environmental shocks. While the advantages of English proficiency are evident, depending solely on English for disseminating agricultural knowledge risks marginalizing those who speak only local languages. In many rural communities, indigenous languages remain the main medium of daily communication. Therefore, while improving English literacy is beneficial, it should be complemented by efforts to translate and deliver agricultural information in local languages. A dual approach promotes wider inclusion and ensures more effective knowledge transfer across diverse farming populations.

Table 3: Influence of English Literacy on Access to Agricultural Information

Areas of Impact on Access	Mean	SD
Women farmers with higher English literacy:		
Understands training materials by extension staff easily	3.08	0.84
Engages actively during workshops & seminars	3.10	0.78
Literate farmers easily apply farm instructions	3.13	0.64
Literate farmers use & benefit from digital tools	3.07	0.88
Understand pricing information	3.08	1.01
Communicate with buyers beyond local markets	3.06	0.74
Interpret farm contracts and agreements	3.10	1.01
Helps farmers understand weather information	3.07	0.97
Easily ask farm questions & seek clarifications	3.12	1.00
Literacy reduces the risk of misinformation	3.15	0.80
Literate farmers do not depend on intermediaries	3.20	1.05

Accepted Mean = 2.50; Standard Deviation

Influence of Literacy on Food Security Among Women Farmers

Table 4 showed that literacy—particularly the ability to read and write in English Language, plays a critical role in shaping food security outcomes among women farmers. Food security is commonly understood through four pillars: Access, availability, utilization and stability. Literacy therefore influences each of these dimensions directly and indirectly. Better knowledge leads to increased food production (M=3.42); this guarantees availability. Promotion of increased yield and food supply (M=3.38), leads to higher incomes (M=3.33), promotes food access and availability (M=3.40), improves dietary quality and household health (M=3.38), assures efficient resources use and stable food supply (M=3.36), reduction of food wastages (M=3.34), promotion of household food distribution (M=3.39), ensures greater control over production (M=3.43), improves resilience and food stability (M=3.40) and helps women diversify food sources (M=3.03). English literacy—the ability to read, write, and communicate effectively in English—plays a critical role in advancing food security, particularly in developing nations like Nigeria, where English serves as

the main medium for education, communication, and agricultural development. According to the Food and Agriculture Organization (FAO, 2026), food security exists when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food. Improving English literacy supports this goal by expanding access to vital knowledge, encouraging the uptake of modern technologies, and creating broader economic prospects.

One major way literacy contributes to food security is by improving access to agricultural information. Much of the material used in extension services—such as training guides, weather forecasts, and market data—is published primarily in English. Farmers who can read and understand English are better equipped to use these resources, gaining insights into improved farming techniques, pest control, soil management, and post-harvest handling. Studies, including Akinbile (2007), show that literate farmers are more likely to adopt new agricultural technologies because they can interpret technical instructions, leading

to higher productivity and more reliable food supplies.

Literacy also enables farmers to engage more effectively with markets and participate fully in the agricultural value chain. With reading and comprehension skills, farmers can monitor price fluctuations, negotiate better terms, and reach markets beyond their local areas. This expanded market access often leads to higher incomes, which improves household food purchasing power and allows investment in better seeds, tools, and equipment. The World Bank (2019c) emphasizes the strong connection between literacy, income generation, and poverty reduction—all of which are central to achieving food security. Moreover, English proficiency helps farmers access government programs and agricultural support services. Many policy documents, subsidy schemes, and assistance programs are communicated in English. Literate farmers are more capable of understanding eligibility criteria, completing applications, and meeting program requirements, increasing their chances of receiving critical inputs such as high-quality seeds, fertilizers, and financial aid—key elements for boosting food production. Literacy also supports better nutrition by enabling

individuals to understand dietary guidelines, food preparation methods, and hygiene practices from sources like printed materials, brochures, and online content. This knowledge promotes healthier eating habits and improved household well-being.

UNICEF (2020) highlights that literacy, especially among women, is strongly associated with better child nutrition and reduced malnutrition rates. In addition, literacy enhances the ability to use digital tools such as mobile phones and the internet. As more agricultural services, weather alerts, and market platforms shift online—often in English—literate farmers can access mobile applications, join virtual training sessions, and consult experts remotely. This strengthens their farming practices and resilience to climate-related challenges. The International Food Policy Research Institute (IFPRI, 2018) underscores that digital literacy, closely linked to language skills, is increasingly essential for agricultural advancement and food security. However, limited English literacy remains a major barrier, especially for small-scale farmers and rural women. Those without literacy skills often depend on traditional methods and may be excluded from modern agricultural opportunities, resulting in lower yields, reduced income,

and greater risk of food insecurity. Addressing this challenge calls for targeted adult education programs, extension services

delivered in local languages, and integrated policies that promote both literacy and agricultural development.

Table 4: English Literacy Influence on Food Security of Women Farmers

Literacy Influence on Food Security	Mean	SD
Better knowledge leads to increased food production	3.42	0.72
Promotes increased yield and food supply	3.38	0.81
Leads to higher incomes	3.33	0.69
Promotes food access & availability	3.40	0.77
Improves farmers purchasing power	3.46	0.45
Improves dietary quality & household health	3.38	1.07
Assures efficient resource use & stable food supply	3.36	0.94
Reduction of food wastages	3.34	1.01
Promotion of household food distribution	3.39	0.81
Ensures greater control over food production	3.43	0.78
Improves resilience and food stability	3.40	0.71
Helps women diversify food sources	3.03	1.01

Accepted Mean = 2.50; Standard Deviation

Challenges Faced by Women Farmers Due to Limited Literacy

Table 5 showed that women farmers with limited literacy face multiple, interrelated challenges that affect their productivity, income and food security. These include limited access to agricultural information (98.3%), poor adoption of modern agricultural technology (91.6%), difficulty assessing credit and financial services (94.1%), weak record-keeping skills (83.3%), limited market access (90.8%), poor communication skills (84.1%), reduced

productivity (87.5%), food insecurity (92.5%), limited awareness of government programs (88.3%), continued marginalization (95%), limited opportunities to participate in programmes (98.3%), fear of engaging in formal or official processes (90.8%) due to lack of command of grammar, and reduced ability to advocate for their rights/needs(95%). Low literacy levels remain a significant barrier to agricultural productivity and food

security for women farmers, especially in developing regions such as Nigeria. Being able to read and write in dominant or official languages—like English—is essential for accessing, understanding, and applying agricultural knowledge. Women with limited literacy face a range of interconnected difficulties that affect their farming efficiency, income, and well-being. One major issue is their limited access to vital agricultural information and extension services. Innovations in farming, climate adaptation strategies, pest control methods, and improved seed varieties are typically communicated through written materials such as manuals, brochures, and online platforms. For women who struggle with reading, these resources are difficult to understand, reducing their ability to learn about and adopt modern techniques (Aker, 2011). Moreover, extension agents often use technical language that is inaccessible to those without formal education, leaving many women excluded from critical support networks (FAO, 2017b).

Another challenge lies in the adoption of advanced farming

technologies. Contemporary agriculture increasingly depends on inputs like fertilizers, pesticides, machinery, and irrigation systems—all of which require a basic level of literacy to use safely and effectively. Written instructions for application, safety precautions, and equipment maintenance are standard, yet hard to follow for women with poor reading skills. This often results in improper use or underuse of technology, leading to lower yields and potential health hazards (World Bank, 2019b). Financial exclusion is also closely tied to low literacy. Accessing credit, loans, and insurance usually involves completing forms, understanding financial terms, and maintaining records—tasks that are difficult without reading and writing abilities. As a result, many women avoid formal financial institutions and rely instead on informal lenders with high interest rates and unfavorable terms, limiting their ability to invest in better farming inputs or expand operations (Karlan et al., 2016).

Poor record-keeping and farm management are common among women with limited literacy. Successful farm

operation requires tracking costs, harvests, labor, and market prices. Without the ability to document these details accurately, resource use becomes inefficient, profits decline, and planning for future growing seasons becomes less effective (Feder et al., 2004). Additionally, many women face difficulties entering and navigating markets, often falling prey to exploitation by middlemen. Due to low literacy, they may lack up-to-date information on market prices, consumer demand, or quality standards. This knowledge gap makes them dependent on intermediaries who may pay unfairly low prices. Their inability to read contracts or negotiate confidently further reduces their earnings and limits economic autonomy (Barrett, 2008). Language barriers also hinder effective communication around climate change. Much of the information on weather forecasts, early warnings, and adaptive practices is shared using complex terminology or non-local languages, making it hard for illiterate women to grasp key messages. This lack of understanding weakens their ability to

respond to changing conditions, increasing the risk of crop loss and food insecurity (IPCC, 2022). Furthermore, low literacy often excludes women from participating in decision-making forums such as community meetings, cooperatives, and training programs. Since these spaces rely heavily on written communication and formal discussion, women may be left out of conversations that shape agricultural policies and initiatives affecting their lives (Meinzen-Dick et al., 2011).

Health risks are another serious consequence. Women may not be able to read labels or safety instructions on agrochemicals, leading to incorrect handling, overuse, or exposure to dangerous substances. Such incidents can cause acute poisoning or long-term health problems, undermining both personal well-being and work capacity (WHO, 2020). Finally, the effects of low literacy extend across generations. Women often serve as primary educators within their households, passing down knowledge and skills. When they lack literacy, their children's learning opportunities may suffer, and the transfer

of improved farming practices slows, agricultural output (UNESCO, 2015).
reinforcing cycles of poverty and low

Table 5: Challenges Facing Women Due to Limited Literacy

Challenges by Women	*Frequency Percentage	
Limited access to agricultural information	118	98.3
Poor adoption of modern technology	110	91.6
Difficulty assessing credit and financial services	113	94.1
Weak record-keeping skills	100	83.3
Limited market access	109	90.8
Poor communication skills	101	84.1
Reduced productivity	105	87.5
Food insecurity	111	92.5
Limited awareness of government programs	106	88.3
Continued marginalization	114	95.0
Limited opportunities to participate in programs	118	98.3
Fear of engaging in formal or official processes	109	90.8
Reduced ability to advocate for their rights/needs	114	95.0

*Multiple responses

Solutions to the Challenges of Limited Literacy among Women Farmers

Table 6 showed the solutions to challenges posed due to limited literacy. These proposed solutions include adult literacy programs (98.3%), use of indigenous languages (90%), visual/practical teaching methods (95%), strengthening agricultural extension services (91.6%), adoption of Information and Communication Technology (96.6%), formation of cooperatives (92.5%), capacity building/skills training (95.8%), making agricultural information simple (90.8%),

school-based/intergenerational learning (89.1%), special education/training for women farmers (94.1%) and monitoring/evaluation (97.5%).

Insufficient reading and writing skills among female farmers are a significant obstacle to agricultural productivity, information availability, and rural progress, especially in developing countries like Nigeria. To address this challenge, it is crucial to implement a holistic and culturally sensitive strategy that integrates

education, communication, institutional backing, and technology in a manner that aligns with the socio-economic conditions of women. Rather than relying solely on traditional educational systems, effective solutions concentrate on inclusive, adaptable, and pragmatic approaches that empower women to actively participate in farming and business endeavors. An essential method to overcome the hurdles of limited literacy is to promote functional and adult education tailored specifically for agricultural settings. Programs that combine literacy and numeracy skills with agricultural knowledge have proven successful in enhancing farmers' capacity to understand farming techniques, interpret extension messages, and manage their farms (UNESCO, 2015). These initiatives are most effective when conducted in local dialects and tailored to women's daily schedules, enabling them to juggle various duties. Studies demonstrate that women engaged in such programs exhibit improved decision-making abilities and increased productivity. Employing interactive teaching methods such as group

discussions and practical learning further enhances comprehension and retention, leading to a more impactful and enduring literacy journey. Another critical element in literacy enhancement is improving agricultural extension services through inclusive communication approaches. Traditional extension models often rely on written materials or technical terms, which can be challenging for women with lower literacy levels to grasp. To address this issue, extension services can introduce oral, visual, and demonstration-based techniques like pictorial guides, radio broadcasts, and farmer field schools. Radio broadcasts, especially in local languages and designed for engagement, remain crucial for disseminating agricultural knowledge in rural areas (Meinzen-Dick et al., 2014). Additionally, the use of mobile phones and voice-based communication has expanded access to timely agricultural information for farmers with limited literacy, aiding them in making informed decisions regarding planting, inputs, and markets. Introducing digital technologies provides an exciting opportunity to address literacy

challenges, especially when customized to suit users' needs. Mobile platforms utilizing voice messages, icons, and interactive voice response systems enable women farmers to access vital information without advanced reading skills. Digital advisory services are increasingly being tailored to cater to low-literacy users in rural regions, bridging the information gap. However, the success of these technologies depends on factors like cost, network availability, and support for digital literacy. The World Bank highlights that combining digital solutions with community-based training enhances adoption rates and ensures that women farmers can fully benefit from technological advancements. Moreover, enhancing women's social connections through group-oriented methods is a significant strategy. Women's cooperatives, self-help groups, and farmer associations provide avenues for sharing knowledge, peer learning, and joint action. Within these groups, literate members often assist others in interpreting written content, filling out forms, or accessing services. These

collaborative settings mitigate the challenges posed by limited literacy and foster empowerment and inclusivity. Studies indicate that women engaged in farmer groups are more likely to adopt improved agricultural practices and access financial options. Institutional support is also vital in addressing literacy-related challenges. Both governments and development organizations should prioritize gender-responsive policies that enhance women farmers' access to education, extension services, and financial assistance (Meinzen-Dick et al., 2014). This involves investing in rural education infrastructure, recruiting female extension agents, and creating training programs that address cultural and social barriers. The involvement of female extension workers is particularly crucial, as they are often more relatable to women farmers and can communicate effectively within local contexts. Simplifying administrative processes and reducing the need for written documentation can also improve women's access to agricultural resources, subsidies, and credit services.

Another significant aspect is the utilization of indigenous knowledge systems and local communication methods. Women farmers frequently possess vast experiential insights that can be harnessed in literacy and training program designs. By merging traditional knowledge with contemporary agricultural techniques, initiatives become more relevant and culturally attuned. Storytelling, songs, and community demonstrations can act as potent instruments for sharing knowledge in contexts where literacy is limited. Economic empowerment efforts significantly enhance literacy programs by tackling the fundamental structural inequalities that restrict women's

access to resources. When women gain more control over their earnings and assets, they are more inclined to invest in education and adopt innovative practices that boost productivity. Initiatives like microfinance, savings groups, and activities that generate income can offer the financial security necessary for women to engage in literacy and agricultural training programs. As noted by Kabeer (2005), there is a strong connection between economic empowerment and the enhancement of agency and decision-making capacity, which are crucial for navigating the challenges posed by limited literacy

Table 6: Proposed Solutions to Challenges Posed by Limited Literacy

Proposed Solutions	*Frequency Percentage	
Adult literacy programs	118	98.3
Use of indigenous language	108	90.0
Visual & Practical teaching methods	114	95.0
Strengthening agricultural extension services	110	91.6
Adoption Information & Communication Technology	116	96.6
Formation of Cooperatives	111	92.5
Capacity building / skills training	115	95.8
Making agricultural information simple	109	90.8
School-based / intergenerational learning	107	89.1
Special education training for women farmers	113	94.1
Monitoring and Evaluation	117	97.5

*Multiple responses

Conclusion

The findings of this research underscore the vital importance of English literacy in boosting farm productivity and ensuring

food security for women farmers in Imo State, Nigeria. Mastery of the English language transcends mere academic

achievement; it empowers these women to effectively access and utilize vital agricultural information. Despite constituting a large segment of the agricultural workforce, many women face challenges due to a lack of educational prospects, making it difficult for them to engage fully with agricultural services and grasp contemporary farming methods. This educational gap leads to diminished productivity and persistent food insecurity, as the increasing dependence on digital resources for agricultural information further alienates those lacking English literacy, worsening existing disparities. Therefore, there is an immediate need for strategies that improve both literacy and technological access. Enhancing literacy can empower better decision-making, increase self-confidence, and facilitate greater participation in community and economic activities, ultimately promoting food security. The study indicates that tackling literacy problems requires a comprehensive strategy. It is crucial for government agencies, NGOs, and community leaders to collaborate on creating adult education programs specifically designed for rural women. These programs should merge literacy training with agricultural education to allow for immediate application of skills.

Tailoring communication methods to accommodate different literacy levels, incorporating local languages, and engaging training approaches is essential. While these strategies are critical, they should work in tandem with efforts to bolster English literacy, which is essential for accessing broader opportunities. The research advocates for increased investment in rural education and skills development. By focusing on literacy for women farmers, policymakers can help build a more inclusive and effective agricultural sector, pivotal in reaching national and global objectives related to poverty alleviation and food security. Ultimately, enhancing English reading and writing skills is crucial for improving agricultural productivity and livelihoods in Imo State. Addressing literacy is not merely an educational concern; it represents a strategic pathway to agricultural success, emphasizing the urgency for stakeholders to prioritize literacy in their initiatives.

References

- Akinbile, L. A. (2007). Determinants of productivity among farmers in Nigeria. *Journal of Agricultural Extension*, 10(2), 45–56.
- Aker, J. C. (2011). Dial “A” for agriculture: A review of information and communication technologies for agricultural extension in

developing countries. *Agricultural Economics*, 42(6), 631–647.

Asenso-Okyere, K., & Mekonnen, D. A. (2012). The importance of ICTs in the provision of information for improving agricultural productivity and rural incomes in Africa. *UNDP Working Paper*

Barrett, C. B. (2008). Smallholder market participation: Concepts and evidence from eastern and southern Africa. *Food Policy*, 33(4), 299–317.

Davis, K., Nkonya, E., Kato, E., Mekonnen, D. A., Odendo, M., Miiro, R., & Nkuba, J. (2012). Impact of farmer field schools on agricultural productivity and poverty in East Africa. *World Development*, 40(2), 402–413.

Food and Agriculture Organization (FAO). (2017a). *The state of food and agriculture: Leveraging food systems for inclusive rural transformation*. Rome: FAO.

Freire, P. (1970). *Pedagogy of the oppressed*. New York: Continuum

Food and Agriculture Organization (FAO). (2006). *Food Security Policy Brief*. Rome: FAO.

Food and Agriculture Organization (FAO). (2017b). *The future of food and agriculture: Trends and challenges*. Rome: FAO.

Feder, G., Just, R. E., & Zilberman, D. (1985). Adoption of agricultural innovations in developing countries: A survey. *Economic Development and Cultural Change*, 33(2), 255–298.

Gujarati, D. N., & Porter, D. C. (2009). *Basic Econometrics* (5th ed.). New York: McGraw-Hill.

Imo Agricultural Development Programme (ADP). (2019). *Annual Report*. Owerri: Imo ADP.

International Food Policy Research Institute (IFPRI). (2018). *Global Food Policy Report*. Washington, DC: IFPRI.

IPCC (2022). *Climate Change 2022: Impacts, Adaptation, and Vulnerability*. Cambridge University Press.

Kothari, C. R. (2004). *Research Methodology: Methods and Techniques* (2nd ed.). New Delhi: New Age International Publishers.

Karlan, D., Osei, R., Osei-Akoto, I., & Udry, C. (2016). Agricultural decisions after relaxing credit and risk constraints. *The Quarterly Journal of Economics*, 129(2), 597–652..

Kabeer, N. (2005). Gender equality and women's empowerment: A critical analysis of the third Millennium Development Goal. *Gender & Development*, 13(1), 13–24.

Meinzen-Dick, R., Quisumbing, A., Behrman, J., Biermayr-Jenzano, P., Wilde, V., Noordeloos, M., Ragasa, C., & Beintema, N. (2014). *Engendering agricultural research*. Washington, DC: International Food Policy Research Institute (IFPRI).

Meinzen-Dick, R., Quisumbing, A., Behrman, J., Biermayr-Jenzano, P., Wilde, V., Noordeloos, M., Ragasa, C., & Beintema, N. (2011). *Engendering agricultural research. IFPRI Discussion Paper*.

National Bureau of Statistics (2020). *Literacy statistics in Nigeria*. Abuja: NBS.

National Bureau of Statistics (NBS). (2020). *Agricultural Statistics Report*. Abuja: NBS.

Ogunlela, Y. I., & Mukhtar, A. A. (2009). Gender issues in agriculture and rural development in Nigeria: The role of women. *Humanity & Social Sciences Journal*, 4(1), 19–30.

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York: Free Press
Rogers, A. (2004). *Non-formal education: Flexible schooling or participatory education?* New York: Springer.

Smith, L. C., Ramakrishnan, U., Ndiaye, A., Haddad, L., & Martorell, R. (2003). *The importance of women's status for child nutrition in developing countries*. IFPRI.

UNESCO (2018). *Global education monitoring report: Gender review*. Paris: UNESCO.

.UNESCO. (2016). *If you don't understand, how can you learn? Global education monitoring report*. Paris: UNESCO.

UNESCO. (2015). *Education for all 2000–2015: Achievements and challenges*. Paris: UNESCO..

UN Women. (2018). *Turning promises into action: Gender equality in the 2030 Agenda for Sustainable Development*.

UNICEF. (2020). *Improving Child Nutrition: The Achievable Imperative for Global Progress*. New York: UNICEF.

World Bank. (2019). *World Development Report: The Changing Nature of Work*. Washington, DC: World Bank.

WHO (2020). *Safer Use of Pesticides in Agriculture*. World Health Organization.

World Bank (2019a). *Agriculture and Food Global Practice Report*. Washington, DC: World Bank

World Bank. (2019b). *Information and communication technologies in agriculture: Connecting smallholders to knowledge, networks, and institutions*. Washington, DC: World Bank.

World Bank. (2019c). *Agriculture and food overview*. Washington, DC: World bank

World Bank (2021). *World development indicators*. Washington, DC: World Bank.