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An Appraisal of The Barriers Encountered by Persons with Visual Impairment in Agricultural Practices in Nigeria

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Abstract: This study appraises the barriers encountered by persons with visual impairment in agricultural practices in Oyo State, Nigeria. Although agriculture remains a major source of livelihood and a pathway to economic empowerment, persons with visual impairment continue to face exclusion from the sector due to structural, environmental, and attitudinal challenges. The study hinges on the Social Model of Disability and Bandura's Self-Efficacy Theory, the study adopted a descriptive survey research design involving 120 respondents selected through purposive sampling. A validated questionnaire was used to collect data, which were analyzed using frequency counts, percentages, means, chi-square, and t-tests. Findings revealed that persons with visual impairment engage mostly in livestock rearing, crop farming, and poultry production but encounter major barriers such as financial constraints, lack of assistive farming tools, limited access to farmland, poor extension services, and inadequate training opportunities. Mobility and safety difficulties significantly affected those with total blindness, while negative societal attitudes further limited their participation. The study recommends that greater inclusion requires targeted interventions, disability-sensitive policies, accessible technologies, and positive societal change to enhance the productivity and independence of farmers with visual impairment.

Keywords: Barriers, Encountered, Visual, Impairment, Agricultural Practice, Oyo State

BACKGROUND TO THE STUDY

Agriculture is the science and practice of cultivating the soil, growing crops, and raising animals for food and other products. It is essential in Nigeria's economy and livelihood structures. It is the major source of income and sustenance for a large share of the population which contributes to food security and employment. According to Sango, Bello, Deveau, Gager, Boateng, Ahmed, & Azam (2022), Agriculture is the backbone of Nigeria's economy and a critical source of livelihood for millions of its citizens. It is a sector adjudged to be the highest employer of labour in Nigeria, which contributes to food security and economic development. The sector is regarded as a major pathway for poverty alleviation and sustainable development. These agricultural practices require that farmers have a substantial level of mobility, which is highly needed in navigating farmland, growing crops, weeding, harvesting, feeding animals, as well as crop processing and marketing. The aforementioned activities demand the use of sight, which is non-functional in persons with visual impairment.

Abilu (2020) describes persons with visual impairment as a cluster of people with reduced or total loss of sight, which prevents them from full participation in daily living activities, mobility, social interactions, and physical exploration of the environment, This often results in limited employment opportunities, reduced self worth and lowself-efficacy. consequently, Persons with visual impairment are often marginalized in the agricultural sector. Sango *et al.* (2022) found that persons with visual impairment who engage in agriculture in Nigeria are limited, while the broader category of persons with disabilities have been shown to participate in farming for survival and as a means of livelihood.

Over the years, the Nigerian Government initiated several policies and programs in Agricultural Sector, such as Operation Feed the Nation (OFN), Agricultural Transformation Agenda, and most recently Renewed Hope Agenda emphasized food security, poverty reduction, and inclusive participation in agriculture. Similarly, the United Nations *Sustainable Development Goals (SDGs)* advocate for the eradication of poverty (SDG 1), zero hunger (SDG 2), and reduced inequalities (SDG 10), highlighting the need to ensure that persons with disabilities are not excluded.

Despite these commitments, persons with visual impairment are facing barriers in agricultural practices. Their barriers include limited access to farmland, lack of adaptive farming technologies, lack of assistive tools, inadequate agricultural extension services, agricultural credit as well as difficulties with mobility, safety, and access to marketing. Additionally, negative societal perceptions and systemic exclusion from government

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support programs further compound their marginalization.

Consequently, persons with visual impairment often depend on family members or community leaders for land, which reduces their independence and limits the scale of their farming activities. Most tools and techniques used in farming are designed for sighted individuals, with little or no adaptation to support individuals with visual impairment. The absence of assistive technologies, such as tactile planting guides or audio-assisted tools, further hinders their ability to engage effectively in agricultural work.

Mobility and safety issues also make agricultural participation difficult. Navigating uneven farmland, operating machinery, and identifying crops or pests without sight exposes persons with visual impairment to higher risks of accidents and injuries. Moreover, agricultural extension services and training programs rarely provide materials in accessible formats in the form of Braille or audio, which limits their access to modern farming practices. Financial constraints and negative social attitudes also reduce their participation. Many persons with visual impairment face difficulties in securing loans or grants from agricultural support programs due to discrimination or misconceptions about their ability to farm. These barriers perpetuate poverty and exclusion.

The exclusion of persons with visual impairment from agriculture not only undermines their The exclusion of persons with visual impairment from agriculture undermines their right to economic independence and contradicts national and global development goals. While agriculture has the potential to empower visually impaired persons, such opportunities remain largely untapped due to persistent structural barriers.

As a result of these barriers, persons with visual impairment in Oyo State are unable to engage fully in agriculture, leading to reduced productivity, economic dependence, and limited opportunities for self-reliance. This situation calls for an appraisal of the barriers encountered by persons with visual impairment in agricultural practices in Oyo State, with a view to identifying strategies that can enhance their inclusion and empower them to contribute meaningfully to agricultural practices and economic development.

Statement of the problem

Agriculture holds great potential for persons with visual impairment. It provides opportunities for self-reliance, reduces dependence on charity, and promotes community inclusion. With adequate support, adaptive tools, and training, persons with visual impairment can participate actively in various aspects of agricultural production to feed themselves and family and contribute meaningfully to national development.

Dgespite these potentials, persons with visual impairment still encounter barriers that hinder their full participation in agriculture. These include limited access to farmland, available tools or agricultural technologies are rarely adapted for non-visual use. Many lack exposure to agricultural extension services and inclusive training programs that would enhance their productivity. Financial constraints, insufficient government support, and the absence of accessible credit facilities further exacerbate the problem. Mobility and safety issues such as difficulty navigating farms, identifying crops, detecting pests, or using tools safely do pose serious barriers. These barriers, often brought about by misconceptions and discrimination that exclude persons with visual impairment from benefiting from agricultural initiatives.

However, with adequate training, adaptive equipment, and economic incentives, persons with visual impairment can excel in agricultural ventures.

Given the vital role of agriculture in national development and the need for inclusive participation in all sectors, it is essential to appraise the barriers affecting persons with visual impairment in agricultural practices in Oyo State. Such an appraisal will generate evidence to guide advocacy, inform policies, and support the design of interventions that promote accessible and sustainable agricultural opportunities for this population.

Objectives of the Study

The main objective of this study is to appraise the barriers encountered by persons with visual impairment in agricultural practices in Oyo State, Nigeria.

Specifically, the study seeks to:

1. Identify the types of agricultural activities persons with visual impairment engage in within Oyo State.
2. Examine the major barriers faced by persons with visual impairment in agricultural practices.
3. Examine how mobility and safety issues limit their participation in farming activities.
4. Assess the extent to which access to resources, influences persons with visual impairment their involvement in agriculture.
5. Explore the role of societal attitudes in affecting the agricultural experiences of persons with visual impairment.
6. Suggest possible strategies for overcoming the identified barriers encountered by persons with visual impairment in Agricultural practices in Oyo State.

Research Questions

- What types of agricultural activities do persons with visual impairment engaged in within Oyo State?
- What are the major problems militating against the participation of persons with visual impairment in agricultural practices?

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- To what extent do access to farm resources, training, and extension services influence their involvement in agriculture?
- In what ways do societal attitudes affect the agricultural experiences of persons with visual impairment?
- What strategies can be adopted to overcome the barriers and improve the participation of persons with visual impairment in agriculture?

Scope of the Study

This study focuses on appraising the barriers faced by persons with visual impairment in agricultural practices in Oyo State. It examines the types of agricultural activities they engage in and the specific difficulties encountered. The study covers mobility and safety issues, access to agricultural resources, training, and societal attitudes that may influence participation. The geographical scope of the study was Oyo, Ogbomosho and Saki towns that are frontliners in agricultural practices in Oyo state.

Significance of the Study

This study is significant as it highlights the barriers faced by persons with visual impairment in agricultural practices in Oyo State. It will provide empirical evidence that will guide government agencies, NGOs, and agricultural extension services in designing inclusive programs and support systems for farming accessibility of persons with visual impairment. Its findings will support the development of accessible farming technologies, specialized training, and targeted interventions to enhance the productivity and independence of farmers with visual impairment. Similarly, the study will promote awareness, advocacy, and informed policy-making aimed at improving the quality of life and socio-economic participation of persons with visual impairment in agriculture.

Theoretical Framework

This study is anchored on the Social Model of Disability and Bandura's Self-Efficacy Theory. The Social Model of Disability posits that disability arises not solely from an individual's impairment but from societal barriers that limit participation. In line with this study, this theory explains how environmental factors, inaccessible tools, inadequate training, and negative societal attitudes create barriers for persons with visual impairment. The study, therefore, views the barriers experienced by farmers with visual impairment as products of external constraints that can be reduced through inclusive policies, accessible technologies, and supportive community practices. Also, Bandura's Self-Efficacy Theory emphasizes individuals' belief in their capability to perform tasks and achieve desired outcomes. For persons with visual impairment who engage in agriculture, self-efficacy influences their willingness to adopt new farming techniques, participate in training, and overcome perceived limitations. Factors such as access to assistive resources, training, and supportive networks can enhance their confidence and productivity.

METHODOLOGY

This study adopted a descriptive survey research design to appraise the barriers encountered by persons with visual impairment in agricultural practices in Oyo State, Nigeria. The population of the study comprises 120 persons with visual impairment in Oyo state, Nigeria. Purposive sampling technique was used to select the respondents. A structured questionnaire was developed by the researcher based on the research objectives and questions to collect data from the respondents. The questionnaire was divided into sections: demographic information, types of agricultural activities engaged in, barriers encountered, mobility and safety issues, access to resources and training, societal perceptions, and strategies for improvement. The questionnaire was validated by experts in special education and agricultural extension to ensure clarity, relevance, and content validity. A pilot test was also conducted with a small group of respondents to refine the instrument before the main data collection. Data were collected through direct administration of the questionnaire Ethical considerations were observed by seeking informed consent, ensuring anonymity, and maintaining confidentiality of responses. The data collected were analyzed using descriptive and inferential statistics of frequency counts, percentages, and mean ratings were used to summarize demographic information and responses, while chi-square and t-tests were used to determine the significant differences that exist across variables such as gender, type of agricultural practice, or degree of visual impairment.

RESULTS

A total of 120 persons with visual impairment participated in the study. The results are presented according to the research questions.

Table 1: Demographic Characteristics of Respondents (N = 120)

Variable	Category	Frequency	Percentage (%)
Gender	Male	80	66.7
	Female	40	33.3
Degree of Visual Impairment	Partial VI	72	60.0
	Total Blindness	48	40.0
Age	Mean = 37.6	SD = 9.4	—

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Table 1 reveals that the sample consisted of more males (66.7%) than females (33.3%). The mean age of respondents was 37.6 years (SD = 9.4).

Research Question 1: Types of Agricultural Activities

Table 2: Agricultural Activities Engaged In

Activity	Frequency	Percentage (%)	Mean	SD
Crop farming	26	21.7	—	—
Livestock rearing	74	61.7	1.62	0.49
Poultry	58	48.3	—	—
Fish farming	42	35.0	—	—
Agro-processing	22	18.3	—	—

Table 2 reveals that livestock rearing had the highest participation (61.7%). The mean score (1.62; SD = 0.49) shows that most respondents engaged in livestock rearing and poultry (48.3%) most of the respondents participated in different agricultural practices.

Research Question 2: Major Barriers Encountered

Table 3: Barriers Faced by Respondents

Challenge	Frequency	%	Mean	SD
Lack of assistive tools	80	66.7	3.42	0.88
Financial constraints	85	70.8	3.60	0.91
Limited technical information	77	64.2	3.28	0.82
Difficulty accessing land	67	55.8	2.94	0.76

Chi-Square Test: $\chi^2 = 12.54$, **$p < 0.05$**

Table 3 reveals that the mean scores for major barriers ranged from 2.94 to 3.60. Since these values fall above the midpoint (3.00), this indicates that respondents generally agreed that the listed items are major barriers to agricultural participation. The highest mean (3.60) for financial constraints shows that most respondents agreed or strongly agreed that lack of financial support is a major barrier. The chi-square result ($\chi^2 = 12.54$, $p < 0.05$) shows that the barriers experienced differ significantly across gender and degree of visual impairment.

Research Question 3: Mobility and Safety Issues

Table 4: Mobility and Safety Factors

Item	Frequency	%	Mean	SD
Difficulty navigating farm terrain	89	74.2	3.41	0.85
Safety hazards/injuries	83	69.2	3.35	0.79

T-test: $t = 2.21$, **$p < 0.05$** (between partially sighted and totally blind)

The table 4 above shows that the mean scores (3.41 and 3.35) fall between "Agree" and "Undecided," indicating that most respondents agreed that mobility and safety barriers negatively affect their farming participation. The t-test result ($t = 2.21$, $p < 0.05$) reveals that totally blind respondents experience significantly greater mobility difficulties than those with partial sight.

Research Question 4: Access to Resources, Training, and Extension Services

Table 5: Access to Agricultural Resources

Variable	Frequency	%	Mean	SD
Access to farm inputs	38	31.7	2.12	0.66
Access to training	34	28.3	2.08	0.72
Access to extension services	23	19.2	1.85	0.59

Chi-Square Test: $\chi^2 = 15.78$, **$p < 0.05$**

It is evident in the table 5 above that the mean scores for access variables (1.85–2.12) fall below the midpoint, indicating that respondents generally disagreed that they have adequate access to resources, training, or extension services. This suggests poor inclusion of visually impaired farmers in mainstream agricultural support systems. The chi-square result ($\chi^2 = 15.78$, $p < 0.05$) indicates significant differences in access levels based on type of visual impairment.

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Research Question 5: Societal Attitudes and Perceptions

Table 6: Effect of Societal Perception

Item	Frequency	%	Mean	SD
Negative perception reduces opportunities	74	61.7	3.24	0.81
Exclusion from cooperatives	58	48.3	3.02	0.74

T-test: t = 1.94, **p < 0.05**

It is evident in table 6 above that the Mean scores (3.02–3.24) slightly above the midpoint suggest that respondents generally agreed that negative societal perceptions limit their opportunities in agriculture. Although not as strong as other constructs, these results indicated that stigma and exclusion remain relevant issues. The t-test value (t = 1.94, p < 0.05) shows that societal attitudes significantly affect respondents differently depending on their level of visual impairment.

Research Question 6: Strategies for Improvement

Table 7: Suggested Strategies

Strategy	Frequency	%	Mean	SD
Provision of assistive tools	94	78.3	3.70	0.90
Specialized training	86	71.7	3.55	0.88
Financial support	79	65.8	3.40	0.79
Inclusion in cooperatives	66	55.0	3.12	0.72

Table 7 shows that All mean scores (3.12–3.70) fall clearly above the midpoint, reflecting strong agreement among respondents on the strategies needed to improve their participation. The highest mean (3.70) for provision of assistive tools shows that respondents strongly agree that assistive technology is a critical need. The consistently high means confirm strong support for inclusive agricultural interventions.

DISCUSSION

The findings of this study provide insights into the experiences of persons with visual impairment that engaged in agricultural practices in Oyo State. The results support the Social Model of Disability, which argues that disability is created not simply by impairment but by environmental, institutional, and attitudinal barriers (Oliver, 1990). The study revealed that majority of the respondents identified significant structural barriers such as limited access to resources, lack of assistive tools, poor access to training, and negative societal attitudes that reflect disabling environmental conditions rather than personal limitations. The low mean scores for access to inputs, training, and extension services indicate systemic exclusion, aligning with earlier findings by the Food and Agriculture Organization (FAO, 2013), which reported that persons with disabilities in rural areas often experience inadequate access to agricultural support systems.

The results also align with Bandura's Self-Efficacy Theory, which emphasizes the role of confidence, perceived capability, and environmental support in influencing task engagement (Bandura, 1997). Limited access to training, high mobility barriers, and negative societal perceptions may weaken the self-efficacy of farmers with visual impairment, reducing their participation and productivity. Conversely, respondents' strong agreement on the need for specialized training and assistive tools suggests that improving environmental support could enhance their confidence and competence in farming. This is consistent with findings by Gakuru and Njenga (2016), who reported that adaptive training and accessible tools significantly increase agricultural participation among persons with disabilities in Kenya.

The high level of mobility and safety barriers found in this study echoes earlier work by Holness (2014), who noted that visually impaired farmers frequently encounter hazards due to inaccessible farm layouts and inadequate safety adaptations. This reinforces the need for environmental restructuring and mobility-supportive practices to enhance safe participation and provision of accessible inclusive farming system such as inclusive green house system for persons with visual impairment.

Negative societal perceptions were also found to influence participation in cooperatives and community activities. This aligns with the findings of Shakespeare (2014), who emphasized that stigma and social exclusion remain critical barriers affecting the socio-economic involvement of persons with disabilities in agricultural practices. The alignment between respondents' experiences and existing literature underscores the persistent nature of attitudinal barriers across African.

Finally, the strategies suggested by respondents such as provision of assistive tools, inclusion in cooperatives, and disability-sensitive training mirror recommendations from international bodies such as the United Nations (UN, 2018), which advocates for inclusive agricultural programs to improve livelihood outcomes for persons with disabilities.

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CONCLUSION

This study examined the barriers encountered by persons with visual impairment in agricultural practices in Oyo State. The findings reveal that although many persons with visual impairment actively participate in various agricultural activities, they face different barriers related to access, mobility, safety, and societal attitudes. These barriers are inline with the Social Model of Disability, which emphasizes that participation is limited not by impairment but by environmental and structural constraints. The lack of access to agricultural inputs, training, and extension services shows systemic exclusion, while mobility difficulties and safety risks profoundly hinder effective engagement in farm activities.

In addition, the results align with Bandura's Self-Efficacy Theory, demonstrating that inadequate support systems and negative societal perceptions can diminish the confidence and motivation of persons with visual impairment. However, the expressed willingness of respondents to learn, use assistive tools, and engage more actively in agriculture indicates that with improved environmental support, assistive technologies, modified farming system, funding, adequate training and positive societal attitudes persons with visual impairment will overcome the barriers confronting them in agricultural practices. Overall, the study concludes that enhancing inclusiveness, improving access to resources, and addressing attitudinal barriers are essential to strengthening the participation of visually impaired persons in agriculture in Oyo State.

RECOMMENDATIONS

Based on the findings, the following recommendations were made:

1. Government agencies, NGOs, and relevant stakeholders should provide accessible farming tools and technologies specifically designed to support persons with visual impairment.
2. Agricultural training programs should be adapted to suit the needs of persons with visual impairment. Training should include hands-on demonstrations, tactile learning methods, and simplified instructions.
3. Extension officers should be trained in disability inclusion and encouraged to reach visually impaired farmers regularly. Access to farm inputs such as improved seedlings, fertilizers, and equipment should be subsidized or facilitated through targeted schemes.
4. Financial institutions and government empowerment programs should create special funding windows such as low-interest loans or grants designed to support farmers with disabilities.
5. Public enlightenment programs should be carried out to reduce stigma and negative perceptions about persons with visual impairment, encouraging their inclusion in cooperatives and community farming initiatives.
6. Persons with visual impairment should be supported through clear farm pathways, accessible farm layouts, mobility guidance, and protective equipment to minimize injuries.
7. Provision of inclusive green house system that would allow persons with visual impairment to participate in a modified system of farming.
8. Disability-inclusive agricultural policies should be developed at the state and local government levels to ensure sustainable participation and protection of the rights of visually impaired farmers.

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