ISSN:
Print - 2277 - 078X
Online - 2315 - 747X

Journal of Humanities, Social Sciences and Creative Arts

PARTICIPATION OF PEOPLE WITH DISABILITIES IN AGRICULTURAL ACTIVITIES IN OGUN STATE, NIGERIA

[1]A. A. SOETAN, [1]O. S. APANTAKU, [1]P. B. ABDULSALAM-SAGHIR AND *[2]A. F. O. AYINDE

[1]Department of Agricultural Extension and Rural Development, Federal University of Agriculture, Abeokuta, Nigeria.
[2]Department of Agricultural Administration, Federal University of Agriculture, Abeokuta, Nigeria.
***Corresponding Author:** fadilatayinde@gmail.com **Tel:** 08035022359

ABSTRACT

People with disabilities (PLWDs) are generally believed to be incapacitated in all spheres of life endeavours. This study assessed their participation in agricultural activities as well the determinants affecting their participation. Stratified random sampling technique was used to select 268 respondents from persons who are: physically challenged (PC), with visually impairment (VI), speech impaired (SI) and lepers (L) from a list of registered members of the Joint National Association of Persons with Disabilities list in Ogun State. Data collected through interview guide were analysed using descriptive statistics, Chi-square, Pearson's Product Moment Correlation and Binary Logistic Regression. Few (30.6%) of the respondents participated in agricultural activities. The agricultural activities mostly participated by PC were egg production (41.4%), cassava production (31.0%) and free range chicken production(27.6%). Also, persons with PVI engaged in free range chicken (44.0%), cassava (32.0%) and maize (28.0%) productions while lepers were engaged in millet (78.6%), cassava (46.4%) and free range chicken (35.7%) production. Few PC (6.9%) and PVI (16.0%) were engaged in broiler production, while 48.0% percent (PC), 32.0% (VI) and 10.7% (lepers) of the PWDs who participated in agricultural activities had access to extension agents. The binary logistic regression results showed that the determinantswhichsignificantly($p<0.01$) influenced PWDs' likelihood of participation in agricultural activities were access to agricultural training ($\beta = 4.14$), access to agricultural inputs ($\beta=3.46$), access to agricultural credit or loan ($\beta =2.59$),access to assistive technologies ($\beta =3.28$)and access to land ($\beta=2.11$). The constraints encountered by PWDs participating in agriculture were lack of funds ($x_1 = 4.02$), inaccessibility to land ($x_2 = 3.72$), inadequate infrastructure ($x_3 = 3.16$), inadequate assistive technology ($x_4 = 3.05$) and negative attitude of people towards PWDs ($x_5 = 2.81$) as well as negative attitude of people to PWDs ($x_6 = 2.81$). The study recommended that provision of lands, agricultural trainings, inclusive agricultural extension service delivery, assistive technology and change of negative mindset towards PWDs, may enhance their participation in agricultural activities.

Keywords: People with disabilities, Participation in agricultural activities, Logistic regression, Ogun State, Nigeria.

INTRODUCTION

According to World Health Organization (2011), individuals who have physical limitations, restriction or lack of specific abilities necessary for them to participate effectively in economic activities in the society are referred to as People with Disabilities (PWDs). PWDs often require special needs, assistance or services, training equipment and facilities to be fully rehabilitated and functionally integrated into the society (WHO, 2011). Globally, according to the International Labour Office (ILO) (2011), one in every ten person has a disability, representing more than a billion people, with four out of every five people with disabilities (PWDs) living in rural areas of developing countries (WHO, 2011). In Nigeria, people with disabilities are a disadvantaged minority, constituting 2.3% of the total population. As observed in the 2006 National Population and Housing Census, there are over 3 million people with different challenges or conditions, such as, visual impairment, physical or mobility impairment, speech and hearing impairment, learning difficulties and intellectual impairment (National Population Commission - NPC 2006).

The Constitution of the Federal Republic of Nigeria-CFRN (1999), does not include disability in its closed list of anti-discrimination provision, therefore placing most activity in the disability scope of the nation in the reigns of Organizations of People with Disabilities (OPDs), such as the Joint National Association of Persons with Disabilities (JONAPWD) and other non-governmental entities (Constitution of the Federal Republic of Nigeria, 1999). The above assertion is further corroborated by Umeh and Adeola (2013), as they reported that there are no forms of social protection for PWDs in Nigeria, a situation which has kept them in poverty.

Among the 3.1 billion people in the rural areas living in abject poverty worldwide, people with disabilities, especially those dwelling in rural areas, are categorised as the poorest of the poor (United Nations, 2011; International Fund for Agricultural Development-IFAD, 2011). The Nigerian Institute of Advanced Legal Studies (2010) also noted that, 9 out of 10 people with disabilities in Nigeria live below the poverty line. According to the International Labour Office (2011), there is a strong relationship between poverty and disability, as poverty may cause a disability and a disability may lead an individual into poverty. This is further explained by the Department for International Development-DFID, (2000) and Zhang (2009) who observed that as a result of disabilities and social prejudices against PWDs, they have little or no employment opportunities and very low income. This low income is often subsequently depleted by high cost of living, expensive assistive devices and medical aids, hence bringing them further into poverty.

According to the Nigeria Stability and Reconciliation Programme (2015), girls and women living with disabilities in Nigeria encounter more abuse, discriminations and suffer from chronic poverty, more than their male counterparts. This assertion is due to the fact that women living with disabilities are often discriminated against by men living with disabilities. As observed by Uromi and Mazagwa (2014), they are prone to sexual abuse and exploitation as a result of their poverty, lack of physical strength and social protection. Furthermore, most family with member(s) living with disabilities are known to exhibit the higher level of poverty than any other poor households around them,

especially in the rural areas (UN, 2011).

Few PWDs in rural areas generate their income in subsistence farming and artisanal small-scale businesses in the informal sector of the economy, especially in developing countries (ILO, 2011). However, according to Coe (2013), the negative societal attitudes towards the participation of PWDs in agriculture have continued to serve as one of the social barriers hindering their efforts to be a productive and self-sufficient member of society.

Contrary to popular assumptions, PWDs are very productive but they experience a higher unemployment rate than people living without disabilities. According to WHO (2011), the reasons for their low employability status includes, the high cost of training and accommodating PWDs at the workplace and records of low productivity when compared with other abled bodied employees. Due to the above and as a result of lack of social welfare packages such as educational opportunities and social security for PWDs in the rural areas to acquire jobs in the formal sector of the economy, they source for their livelihoods through self-employment in the informal sector of the economy, especially in the main occupation which is generic to rural areas in developing countries, agriculture.

Purpose of the study

The overall objective of the study is to investigate the determinants of people with disabilities' (PWDs) participation in agricultural activities. Specifically, the study aimed to:

i) Describe the socioeconomic characteristics of PWDs in the study area.

ii) Describe the agricultural activities participated in as well as enterprises cultivated by the PWDs in the study area.

iii) Determine the socioeconomic and farm-specific factors affecting PWDs' participation in agricultural activities in the study area.

iv) Identify the constraints encountered by PWDs who are participating in agricultural activities.

Hypothesis

The hypothesis tested in this study was such that:

H_0: There is no significant relationship between the socioeconomic and farm-specific factors of PWDs' and their participation in agricultural activities in Ogun State.

METHODOLOGY

The sample frame of the study consisted of 1,110 registered members of the Joint National Association of Persons with Disabilities (JONAPWD) in Ogun state, Nigeria. Table 1 shows the sample frame of the study disaggregated along membership of existing PWDs association .

Table 1: Sample frame of people with disabilities

JONAPWD Cluster Groups	Type of Disability	Total Registered Members
Physically Challenged Association of Nigeria (PCAN)	Physically Challenged	349
Integrity, Dignity, Economic Advancement (IDEA)	Leprosy (Hanson's Disease patients)	178
National Association of the Deaf (NAD)	Speech and Hearing Impairment	298
National Association of the Blind (NAB)	Visual Impairment	285
Total		1,110

Source: Preliminary Field Survey, 2017

The sample size was determined through the using an equation by Watson (2001).
Where: n = sample size required:
N = 1,110 (number of people in the population)
P = 0.5 for 50-50 (The estimated variance in population, as a decimal i.e., 0.5 for 50-50, 0.3 for 70-30))
A = 0.05 for 5% (The precision desired, expressed as a decimal i.e., 0.03, 0.05, 0.1 for 3%, 5%, 10%)
Z = 1.96 for 95% confidence level (Based on confidence level: 1.96 for 95% confidence, 1.6449 for 90% and 2.5758 for 99%)
R = 0.95 for 95% (Estimated Response Rate, expressed as a decimal)
Therefore, n (the sample size required) = 269 respondents.

Based on the structure of the Ogun State Chapter of JONAPWD which is the umbrella group for four (4) clusters groups of organisations for People with Disabilities (OPDs). As shown in Table 1, JONAPWD is already divided into homogeneous subgroups. Following from this therefore stratified sampling was used to select 269 respondents from all the association using simple random sampling technique, in order to avoid unconscious bias in sample selection and to ensure that the selected sample is an accurate representation of each group under the population. This was achieved by calculating the percentage of the total sample size and multiplying it against each OPDs under JONAPWD, to calculate the stratum sample size of each cluster groups as demonstrated in the calculation below.
Where n = 269 and N = 1110. The percentage of the sample size was therefore, 24.2%.

Therefore, the proportion size of the OPDs is shown below;
Proportion size of PCAN members: 24.2% x 349 = 85 respondents.
Proportion size of IDEA members: 24.2% x 878 = 43 respondents.
Proportion size of NAD members: 24.2% x 298 = 72 respondents.
Proportion Size of NAB members: 24.2% x 285 = 69 respondents.
Total sample size = 269 respondents.

An interview guide was used to facilitate interviews with the selected PWDs. Both descriptive and inferential statistical tools were used in this study. The descriptive tools (means, percentages and tables) were obtained using Microsoft Excel® while the inferential tools analysis (binary logistic regression) for testing the null hypothesis was obtained using the Statistical Package for the Social Sciences and Service Solution (SPSS) version 21.0. Twelve-item scale was used to measure the constraints affecting PWDs participating in agricultural activities. The items were measured using 4-point rating scale of Very Serious (VS)=4, Serious (S) =3, Mildly Serious (MS) =2 and Not Serious (NS)=1. The mean cut-off was computed as 2.5. this implies that mean responses greater than 2.5 were considered to be serious, while those less than 2.5 were considered not serious.

The binary logistic (Also known as logit) regression is a non-linear regression model used to analyse models with dichotomous dependent variables (Field, 2005). This research considered logit regression model to test the study hypothesis (earlier stated). The logit regression model is mathematically stated in explicit form as:

$$Y = \ln \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \mu$$

Where Y= Participation in agricultural activities (1 if participating, 0 not participating)
P_i = 1: for Probability of participating in agricultural activities
1-P_i = 0: for Probability of not participating in agricultural activities
X_1 = Received training in agricultural activities (Dummy)
X_2 = Have access to family labour (Dummy)
X_3 = Have spare time for farming (Dummy)
X_4 = Have access to assistive technology (Dummy)
X_5 = Ease of agricultural activities (Dummy)
X_6 = Have access to hired labour (Dummy)
X_7 = Have access to agricultural input (Dummy)
X_8= Have access to land (Dummy)
X_9= Have access to agricultural credit or loan (Dummy)
X_{10}= Have adequate water for farming activities (Dummy)
X_{11}= Experience social Exclusion (Dummy)
μ = error term

RESULTS AND DISCUSSIONS

Socioeconomic Characteristic of People with Disabilities in Ogun State

Table 2 shows that about half (49.6%) of the respondents interviewed were between 20 and 39 years old. People with Disabilities who are SI (49.3%) had the highest population of young people between the ages of 20 and 29 years while L (76.8%) were mostly elderly people This finding is supported by Groce (2003) and Roggero et al. (2005).Both studies suggested that there is high prevalence of disability among youths globally, with 80% of them residing in developing countries. More than half (54.9%) of the respondents were males. This finding is in consonance with the reports of the Christian Blind Mission CBM (2013) that the interest of women with disabilities were not adequately represented by organisations for People with Disabilities (OPDs). However, results in Table 2 reveals that PWDs who are L (74.4%) were mostly females.

In all, over 39.6% of the respondents were married, with majority (60.5%) of the Ls were either widows or widowers while half (50.7%) of SI were single. Overall, the majority (58.6%) were Christians.

Furthermore, the majority (73.1%) of the overall respondents had some form of formal education, with over 25.7% having had the basic primary education while few PWDs who were VI (30.4%) and SI (29.6%) had acquired tertiary education (Table 2). This finding indicates the preponderance of literacy among people with disabilities in the study area. This is as a result of measures taken by the Federal Ministry of Education of Nigeria, which introduced guidelines for inclusive education, and included an implementation plan for the special needs education strategy (short-term, medium-term and long-term) (Nigeria Report submitted for the Eighth Consultation on the implementation of the Convention and Recommendation against Discrimination in Education – 2006-2011 (UNESCO, 2013; UNESCO, 2015).

More results in Table 2 reveal that the majority (44.9%) of the respondents who were VI were skilled in beads making while few (19.7%) of PWDs who were SI were into carpentry. This supports Ingram (1969) observation of activities of visually impaired individuals at a very old government's vocational training centre in Lagos known as *Farmcraft*. The study reported that, "blind farmers grow crops such as bananas, beans,

cassava, groundnuts, maize, pawpaw, pepper, pineapples, etc." As at the time of this study, Farmcraft still exists in Lagos. However, more than half (55.2%) of the respondents had no vocational skills (Table 2).

Table 2: Socioeconomic characteristics of respondents

Variables Mean/Mode	PC N=85(31.7)	VI N=69(25.7)	SI N=71 (26.5)	L N=43(16.0)	Total N=268(100)
Age (years)	30-39 (35.3)	20-29 (27.5)	20-29 (49.3)	≥ 50 (76.8)	20-29 (26.8)
Sex	Male (52.9)	Male (62.3)	Male (67.6)	Female (74.4)	Male (54.9)
Marital status	Married (45.9)	Married (42.0)	Single (50.7)	Widowed (60.5)	Married (39.6)
Religion	Christian (75.3)	Christian (60.3)	Muslim (41.4)	Christian (76.7)	Christian (58.6)
Religion	Christianity (75.3)	Christianity (60.3)	Islam (41.4)	Christianity (76.7)	Christianity (58.6)
Education	Secondary (32.9)	Tertiary (30.4)	Tertiary (29.6)	Secondary (20.9)	Primary (25.7)
Vocational skill	Soap making (14.1)	Bead/craft making (44.9)	Carpentry (19.7)	None (100)	None (55.2)
Occupation	Artisanship (33.3)	Trading (32.8)	Trading (38.0)	Farming (58.5)	Trading (29.1)
Household size (persons)	≥ 6 (36.5)	3-5 (36.2)	≤ 2 (49.3)	≥ 6 (46.5)	3-5 (36.1)
Position in household	Head (51.8)	Head (50.7)	Dependent (56.3)	Dependent (58.1)	Dependent (52.2)
Annual income (Naira)	≤ ₦60,000 (45.9)	≤ ₦60,000 (41.2)	≤ ₦60,000 (54.9)	₦91,000-₦120,000 (56.1)	≤ ₦60,000 (41.5)

Source: Field survey, 2017

Note* PC = Physically challenged, VI= Visually impaired, SI= Speech impaired, L= Lepers
Figures in parentheses are percentages

This finding of this study further corroborates that of the Dark and Light Blind Care (2008) report, which not only confirmed the lack of vocational skills among PWDs, but further stated that it is a major barrier for PWDs, especially women in becoming self-employed. Few PWDs who are VI (32.8%) and SI (38.0%) were traders while the majority (58.5%) of PWDs who were lepers were farmers. This is contrary to the study of Ali, Schur and Blanck (2011), which states that over 40% of PWDs in their study were unemployed.

Results in Table 2 further reveal that 49.3 percent of PWDs who were SI were from

households with 2 or less persons while 46.5% of PWDs who are lepers were from larger households of 6 or less persons. According to Braithwaite and Mont (2008), the presence of an individual with disability in a larger household may increase the chances of poverty of that household, as the household may have to spend more of its resources and time to cater for such individual.

The table also reveals that 58.1 percent of PWDs who were L were dependent while 56.3% of PWDs who were SI were dependent as well. Also 51.8% of PWDs who were physically challenged and 50.7% of PWDs who were visually impaired were head of households. This finding is similar to studies such as USAID (2010) and World Bank (2007), which suggested that most PWDs are dependent on their family members either as a result of employment or overprotection by the head of their households i.e. parents. Results further reveal that the majority of PWDs who were lepers (56.1%) earned between ₦91,000 - ₦120,000 per annum. This is because most lepers have access to monthly stipends from the Ogun State government, in addition to profit from their farming activities. However, majority (41.5%) of the PWDs earned less than N60,000 annually. This result supports the notion that PWDs earn way less than a dollar a day (World Bank, 2005; Yeo, 2005), and thus were impoverished.

Description of Agricultural Activities Participated in as well as Enterprises Cultivated by PWDs in the Study Area

Results show that only 30.6% of the total respondents were participating in agricultural activities, they include 34.1% of PWDs who were physically challenged, 36.2% of visually impaired PWDs and 65.1% of lepers (Table 3).

Out of the 30.6 percent participating in agricultural activities, 21.2 percent of the respondents confirmed that they were self-employed on owned farms while 6.7% of the respondents revealed that they were voluntarily employed on a family/friend's farm. Also, 2.3% indicated that they were employed on a private/government owned farm while very few (0.4%) respondents revealed that they were employed on a cooperative/social farm.

Table 3: Participation of PWDs in agricultural activities

Participation in agriculture	Physically challenged	Visually impaired	Speech impaired	Lepers	Total
Self-employed on personal farm	12 (14.1)	18 (26.1)	-	27 (62.8)	57 (21.2)
Employed on a private/ government farm	6 (7.1)	-	-	-	6 (2.3)
Employed on a coop./ social farm	-	-	-	1 (2.3)	1 (0.4)
Employed voluntarily on a family/friend's farm	11 (12.9)	7 (10.1)	-	-	18 (6.7)
Total	**29 (34.1)**	**25 (36.2)**	**71 (100.0)**	**28 (65.1)**	**82 (30.6)**

Source: Field Survey, 2017

Further results from Table 3 show that 62.8%, 26.1% and 14.1% of PWDs who are lepers, visually impaired and physically challenged respectively, were self-employed in agricultural activities. Overall, PWDs who were L (65.1%) had the highest (65.1%) representation among other PWDs participating in agricultural activities. The findings of this study in this regards is quite promising, considering the fact that, as at the time of this study there was no interventions that encouraged participation of the respondents in agricultural activities in the study area. According to the National Union of Disabled Persons of Uganda (2013), PWDs were given access to agricultural training, extension services and microcredit but 91.7 percent did not participate in agricultural activities. In the same report, only 1.7% (2 out of 128) persons with disabilities were commercial farmers with about 40% who engaged in one forms of subsistence food crop farming activity or the other. Low participation of PWDs was blamed on stigma attached to disability in Uganda which discouraged PWDs from being active in the farming partnership.

Furthermore, in a study carried out in Kenya by Ng'ang'a (2013), many PWDs voluntarily participated in agricultural activities with family members due to their lack of access to land via inheritance. However, according to PWDs who were lepers in Ogun State, Nigeria, the land allocated to them by the state government was being taken over gradually by land grabbers (Omo Onile). Therefore, they are likely to have constricted farm land to practice agriculture in the very near future.

The specific farm enterprise participated in by the PWDs is reported in Table 4. The table show that PWDs who were lepers mostly cultivated millet (78.6%) and cassava (46.4%), as well as rearing free range chicken (35.7%). Also, people with disabilities who were physically challenged were engaged in egg production (41.4%) as well as chicken (27.6%). They also cultivated cassava (31.0%) and banana (17.2%). People with disabilities who were visually impaired cultivated cassava (32.0%), banana (12.0%) and maize (28.0%) while they also reared cockerels and hens (44.0%). Although Table 3 shows that PWDs who were lepers (65.1%) had the highest percentage of participation in agricultural activities, they participated in fewer activities when compared with other PWDs.

Table 4: Participation of PWDs in different agricultural enterprises

Agricultural Activities	Physically challenged (29)	Visually impaired (25)	Lepers (28)	Overall(82)
Cassava	31.0%	32.0%	46.4%	36.6%
Maize	24.1%	28.0%	21.4%	24.4%
Millet	20.7%	16.0%	78.6%	39.0%
Banana	17.2%	12.0%	-	9.8%
Broiler	6.9%	12.0%	-	6.1%
Egg production/layers	41.4%	16.0%	7.1%	21.9%
Free range chicken	27.6%	44.0%	35.7%	35.4%
Rabbits	6.9%	-	-	2.4%
Piggery	20.9%	4.0%	-	8.5%
Catfish production	10.3%	4.0%	-	4.9%

Source: Field Survey, 2017

Determination of the Socioeconomic and Farm-specific Factors affecting PWDs' Participation in Agricultural Activities in the study area:

This objective was accomplished in two ways. The first method recorded the factors perceived by the PWDs to predispose them to participation in agricultural activities. (Table 5) while the second method tested the stated study hypothesis that no significant relationship exists between identified factors and PWDs participation in agriculture, using the binary logit regression analysis (Table 7).

From table 5, majority (86.2%) of PWDs who were physically challenged, visually impaired (88.0%) and lepers (71.4%) felt training in some agricultural activities influence their participation in agricultural activities.

The Table also reveals that PWDs who were physically challenged (58.6%) and visually impaired (56.0%) felt that it was because they had access to family labour or assistance while few PWDs (32.1%)who were lepers indicated the same thing. Furthermore, all PWDs who were physically challenged (100.0%), visually impaired (100.0%) and almost all PWDs who were lepers (96.4%) thought it was because they had spare time for farming.

Almost all (92.9%) the PWDs who were lepers thought it was because they had access to hired labour while more than half (57.6% and 60.0%) of PWDs who were physically challenged and visually impaired thought it was because they had access to hired labour respectively.

Also, 71.4% of PWDs who were lepers while PWDs who were physically challenged (52.1 percent) and visually impaired (56.0 percent) thought they got engaged in agricultural activities because they had access to agricultural inputs. In the same vein, few (48.3 percent) PWDs who were physically challenged and visually impaired (32.0 percent) felt it was as a result of access to extension services.

Table 5: Perceived Factors influencing participating in agricultural activities by the PWDs'

Underlying Factors	Physically challenged Freq. (%)	Visually impaired Freq. (%)	Lepers Freq. (%)
Received training in agricultural activities	25 (86.2)	22 (88.0)	20 (71.4)
Access to family labour	17 (58.6)	14 (56.0)	9 (32.1)
Spare time for farming	29 (100)	25 (100)	27 (96.4)
Access to assistive technology	14 (48.3)	5 (20.0)	14 (50.0)
Access to hired labour	17 (57.6)	15 (60.0)	26 (92.9)
Access to other agricultural inputs	18 (52.1)	14 (56.0)	20 (71.4)
Access to land	12 (41.4)	16 (54.0)	11 (39.3)
Access to agricultural credit or loan	6 (20.7)	10 (32.0)	12 (42.9)
Adequate water for farming activities	14 (48.3)	19 (76.0)	12 (42.9)
Experience social exclusion	22 (75.9)	21 (84.0)	22 (78.5)
Access to extension services	14 (48.3)	8 (32.0)	3 (10.7)

Source: Field Survey, 2017

From the above, it implies that that the dominant perceived positive factors that favoured agricultural participation of the PWDs were training received in agricultural activities, access to family labour, having spare time for farming, access to hired labour, other agricultural inputs and adequate water for farming activities. These results are similar to the findings of a study carried out in Ogun State by Abdulsalam-Saghir and Ogunbanwo (2006).

Hypothesis Testing: Test of Significant Relationship between the Socioeconomic and Farm-specific Factors of PWDs' and Their Participation in Agricultural Activities in Ogun State

This hypothesis was tested using the binary logistic regression analysis. The variables perceived by respondents (in table 5) as influencing their participation in agricultural activities coupled with their socioeconomics and other farm-specific factor were subjected to statistical test as significant influencers of the PWDs agricultural participations.

The log likelihood in Table 7 reveals the overall significance of the model for the Binary Logistics Regression which present the -2 Log likelihood ratio as 141.103 and Chi square ($\chi 2 = 188.986$, df =10) of the model was statistically significant at 1% level. All these reveal that the model is well fitted. Therefore, the null hypothesis is rejected.

Table 6: Chi-square test of the Binary Logistics Regression model

Omnibus Tests of Model Coefficients				
	Chi-square	**df**	**Sig.**	**Log likelihood**
Step	188.986	10	0.000*	
Block	188.986	10	0.000*	
Model	188.986	10	0.000*	
-2 Log likelihood				141.103

Source: Field Survey, 2017

Note: *= $p \leq 0.05$

The results in Table 8 reveal that the significant factors affecting agricultural participation of PWDs in agricultural activities include agricultural training received ($\beta = 4.14$, $p \leq 0.00$), having spare time to farm ($\beta = 2.79$, $p < 0.01$),access to assistive technologies ($\beta = 3.28$, $p < 0.00$), access to agricultural inputs ($\beta = 3.46$, $p < 0.00$), access to land ($\beta = 2.11$, $p < 0.003$) and access to agricultural credit or loan ($\beta = 2.59$, $p < 0.001$), all of which were significant and positive. This implies that an increase in agricultural training received, spare farming time, assistive technologies, agricultural input, access to land and access to credit will increase the odds of participation of PWDs in agricultural activities.

Table 7: Relationship between the socioeconomic and farm-specific factors of PWDs' and their participation in agricultural activities in Ogun State

Variables	Coefficient (β)	S.E	df	P-value	EXP (β)	95% C.I for EXP (β)	
						Lower	Upper
Received training in agricultural activities	4.14	0.59	1	0.000	62.9	19.9	197.8
Access to family labour	0.058	0.46	1	0.890	1.06	0.43	2.59
Spare time for farming	2.79	1.10	1	0.010	16.2	1.87	140.4
Access to assistive technology	3.28	0.72	1	0.000	23.7	2.67	158.8
Access to hired labour	0.31	0.68	1	0.650	1.37	0.36	5.18
Access to agricultural input	3.46	0.77	1	0.000	31.7	6.95	144.4
Access to land	2.11	0.71	1	0.003	8.25	2.05	33.2
Access to agricultural credit or loan	2.59	0.81	1	0.001	14.9	2.93	37.9
Adequate water for farming activities	1.12	0.65	1	0.090	3.06	0.86	10.9
Experience social exclusion	-0.47	0.66	1	0.480	0.63	0.17	2.27
Constant	-6.61	1.44	1	0.000	0.00		

Source: Field Survey, 2017

The EXP (β) of agricultural training received predicts that an increase in agricultural training will increase PWDs' participation in agricultural activities by 62.9 times, the same applies to the odds of other positive and significant underlying factors; spare farming time will increase the odds of participation by 16.2 times, increased access to agricultural inputs will increase participation by 31.7 times while increased access to land will increase PWDs' participation by 8.25 times.

Constraints Encountered by PWDs Participating in Agricultural Activities

Data in Table 6 show the rank order of constraints encountered by PWDs participating in agricultural activities. Lack of funds ($x\square$ = 4.02) was the most limiting constraints affecting agricultural activities (holding the significant factors above constant). The other limiting constraints were lack of access to agricultural land ($x\square$ = 3.72); infrastructure ($x\square$ = 3.16) and assistive technologies ($x\square$ = 3.05) for ease of accessibility to the farm ($x\square$ = 3.05) as well as the negative attitude of people to PWDs ($x\square$ = 2.81).

This implies that lack of funds was a very serious constraint encountered by PWDs which may be a precursor to other constraints faced by the PWDs. These constraints were similar to those identified in the study conducted in Kenya by Ng'ang'a (2013), where she reported that lack of funds is the most serious constraints of them all. Also, on the website of Ontario

Health Promotion E-bulletin (2017), negative societal attitudes to PWDs (which ranked 5th) was declared to be one of the greatest barriers of PWDs towards achieving self-sufficiency. These constraints need to be taken into consideration by policy makers towards booting participation of PWDs in agricultural activities.

Table 6: Constraints encountered by PWDs participating in agricultural activities

Constraints of PWDs in Agricultural Activities	VS (%)	S (%)	MS (%)	NS (%)	Mean	Rank
Lack of funds, credit or loan facilities	75.6	19.5	4.9	-	4.02	1
Lack of infrastructure, inputs, tools and machineries	46.3	37.8	15.9	-	3.16	3
Lack of assistive technological devices for easy accessibility to the farm	28.0	52.4	8.5	11	3.05	4
Difficulty in marketing agricultural products	7.3	36.6	12.2	43.9	2.27	9
Inadequate storage facilities	11.0	26.8	22.0	40.2	1.96	12
Pest and diseases	26.8	32.9	15.9	24.4	2.62	7
Low yield	25.6	25.6	18.3	30.5	2.17	10
Lack of transportation for agricultural products	23.2	19.5	15.9	41.5	2.00	11
Lack of access to land	65.9	20.7	3.7	9.8	3.72	2
Lack of access to labour	37.8	15.9	18.3	28.0	2.54	8
Lack of social relationship among other farmers	36.6	22.0	13.4	28.0	2.77	6
Negative attitude of people to PWDs	48.8	23.2	11.8	17.1	2.81	5

Source: Field Survey, 2017

*Frequency (percentage)
Note: VS= Very Serious; S= Serious; MS= Mildly Serious; NS= Not Serious

CONCLUSION AND RECOMMENDATION

People with disabilities are capable of participating in agricultural activities, but in order to enhance their participation, they need to access to agricultural training, assistive technologies, agricultural inputs, agricultural land and agricultural credit or loan. The extension service should also sensitise the PWDs to create their spare time for farming activities. These imply therefore, that inclusion of the PWDs in agricultural development programmes will further grant them more exposure to agricultural activities, which will enable them to participate towards adding their quota to the development of GDP of the country.

REFERENCES

Abdulsalam-Saghir, P.B., Ogunbanwo, S. A. 2006. Analysis of Extension and Training Needs of Physically Challenged Farmers in Ogun State, Nigeria. 11th Annual Conference proceedings of the Agricultural Extension Society of Nigeria AESON pp. 305-311. Ogun state, Nigeria.

Ali. M., Schur, L., Blanck, P. 2011. What Types of Jobs Do People with Disabilities

Want? *Journal of Occupation Rehabilitation* 21, pp.199–210. DOI 10.1007/s10926-010-9266-0

Braithwaite, J., Mont, D. 2008. Disability and Poverty: A Survey of World Bank Poverty Assessments and Implications Social Protection and Labor, World Bank.

Christian Blind Mission CBM. 2013. Inclusion Made Easy: A Quick Program Guide to Disability in Development. Christian Blind Mission.

Constitution of the Federal Republic of Nigeria. 1999. The 1999 Constitution of the Federal Republic of Nigeria. Section 13 to 24 of Chapter 11 and Section 15.

Coe, S. 2013. Focus on Disability: Changing Agricultural Attitudes. *SciDev.Net.* Retrieved from http://www.scidev.net/global/farming/analysis-blog/focus-on-disability-changing-agricultural-attitudes.html

Dark and Light Blind Care 2008. Inclusion of Disabled People in Vocational Training and Income: An Overview of International Experiences and Approaches. Veenendaal.

Department for International Development (DFID) 2000. Disability, Poverty and Development. Department for International Development, London, UK

Field, A. 2005. Discovering Statistics using SPSS for Windows: Advanced Techniques for the Beginner, London: Sage. Chapter 6.

Groce, N.E. 2003. HIV/AIDS and People with Disability. *The Lancet* 361(9367): 1401-1402.

IFAD 2011. Making a Difference in Asia and The Pacific: Creating Opportunities for Rural Youth. *IFAD Newsletter,* Issue 35, International Fund for Agricultural Development, Jan.–Feb. Rome.

International Labour Office 2011. Empowering People with Disabilities in Rural Development. *Rural Policy Briefs*. ILO, Geneva.

Ingram, D. 1969. The Commonwealth at Work: The Commonwealth and International Library of Science Technology, Engineering and Liberal Studies. 1st edition. Pergamon Press Ltd, London.

N.P.C. 2006. 2006 Population and Housing Census of the Federal Republic of Nigeria. Priority Tables. (Vol. 1). National Population Commission, Abuja, Nigeria.

National Union of Disabled Persons of Uganda 2013. *Economic Empowerment*. Website: http://nudipu.org/programmes/economic-empowerment/

Ng'ang'a, W.V. 2013. Persons with Disabilities in Agriculture in Kenya: Access to Resources and Training. *Research Project Report. Real Impact for Sustainable Growth* (Kenya) and Leonard Cheshire Disability (UK).

Nigeria Stability and Reconciliation Programme (NSRP) 2015. What Violence Means to Us: Women with Disabilities Speak. Inclusive Friends. Bukuru, Plateau State.

Nigerian Institute of Advanced Legal Studies 2010. Communique on Roundtable on the Un-served Handicapped: Raising Respect and Awareness for the Rights of the

Disabled in Nigeria. http://www.nials-nigeria.org/round_tables/CommuniqueonUnservedHandicapped.pdf

Ontario Health Promotion E-bulletin 2017. The Road to Decreasing Barriers Faced by People with Disabilities. Website: http://www.ohpe.ca/node/211

Roggero, P., Tarricone, R., Nicoli, M., Mangiaterra, V. 2005. Employment and Youth with Disabilities: Sharing Knowledge and Practices. Washington, D.C.: World Bank.

United Nations 2011. Disability and the Millennium Development Goals: A Review of the MDG process and Strategies for Inclusion of Disability Issues in Millennium Development Goal Efforts. United Nations, New York.

United Nations Educational, Scientific and Cultural Organization (UNESCO) 2013. Result of the Eighth Consultation of member States (2006 – 2011). Implementation of the Convention and Recommendations against Discrimination in Education. Paris

United Nations Educational, Scientific and Cultural Organization (UNESCO) 2015. Monitoring of the Implementation of the Convention and Recommendation against Discrimination in Education (8th Consultation). The Right to Education for Persons with Disabilities: Overview of the Measures Supporting the Right to Education for Persons with Disabilities reported on by Member States. Paris.

Umeh, C. N., Adeola, R. 2013. Africa Disability Rights Yearbook, Nigeria. ADRY 1: 277-290.

Uromi, S.M., Mazagwa, I.M. 2014. Challenges Facing People with Disabilities and Possible Solutions in Tanzania. *Journal of Educational Policy and Entrepreneurial Research (JEPER)* 1(2): 158-165. http://www.iiste.org/Journals/index.php/JEPER/index

United States Agency for International Development (USAID) 2010. USAID/VIETNAM: *Disabilities and Health Assessment*. Retrieved from: https://www.usaid.gov/sites/default/files/documents/1861/final_vietnam_disabilities_and_health_assessment_report.pdf

Watson, J. 2001. How to Determine a Sample Size: Tipsheet #60, University Park, PA: Penn State Cooperative Extension. Available at: http://www.extension.psu.edu/evaluation/pdf/TS60.pdf

World Bank 2005. Social Analysis and Disability: A Guidance Note. Incorporating Disability, The World Bank, Rome.

World Bank 2007. Social Analysis and Disability: A Guidance Note. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2007/04/13/000090341_20070413095245/Rendered/PDF/393850SocialAnalysis1Disability01PUBLIC1.pdf

World Health Organization 2011. World Report on Disability. World Health Organization and World Bank. Geneva: WHO Press.

Yeo, R. 2005. Disability, Poverty and The 'New' Development Agenda. A Report to the KaR Programme.

Zhang, D. 2009. Policies and Effects of Poverty Reduction for People with Disabilities in China. In Von Braun et al. (eds.). *The Poorest and the Hungry Assessments, Analysis and Action*. An IFPRI 2020 Book.

(*Manuscript received: ; accepted:)*