

Assessing the Training Needs of People with Physical Disabilities in Rice Production: Implications for Agricultural Extension Services in Zangon Kataf LGA, Kaduna State, Nigeria

*La'ah, D., Damina, D.A., Sambo, U. & Ali, H.A.

School of Agricultural Technology
Nuhu Bamalli Polytechnic Zaria
Samaru-Kataf Campus.

*laahdauda@gmail.com (+234-8083410992)

Makarau, S.B.

Faculty of Agriculture
Kaduna State University Kaduna
Kafanchan Campus.

ABSTRACT

The study established the information needs of People with Physical Disabilities (PPD) in rice production. Eighty closed and open questionnaire were developed for the purpose of collecting the data from physically disabled rice farmers in Zangon-Kataf Local Government Area. The outcome revealed that most of the respondents were males (70.0%), between 31 to 40 years, had Primary School Leaving Certificates (52.5%) as their highest qualifications, blind with one eye (51.2%) and suffered for 10 to 51 years. Also, the famers needed information on weather conditions as well as harvesting technology – which had a mean of 3.6. When the data was subjected to Scheffe test, the result revealed that there was a statistically significant difference of 0.05 in the level of training of People with Physical Disabilities (PPD) in rice production as F-ratio (4.48) was greater than F-Probability (3.88). Thus, the study concludes that disabled rice farmers in Zangon-Kataf need more agricultural extension training to improve rice productivity and marketability in the area. One of the recommendations made was that, the training needs of People with Physical Disabilities' (PPD) in rice production should be taken serious and remember that they depend on families for support and assistance.

Keywords: Training needs, People with Physically Disabilities, implications, agricultural extension services.

Aims Research Journal Reference Format:

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1. INTRODUCTION

In general, a disability is any condition that limits or restricts a person's behaviour or potential (Afolayan, 2011). This means that most people at some point in their lives are likely to be disabled in one way or another (Adeshina, 2001). Amusat (2009) reported that disability is very common worldwide. The World Health Organization (WHO) estimated that about 500 million people live with disability worldwide, with about 75% living in the developing countries [United Nations (UN), 1993]. In Nigeria, the World Health Organization (WHO) estimates put the number of People with Physical Disability (PPD) at 19 million or approximately 20% of the country's population (Lang and Upah, 2008). Afolayan (2011) emphasized that the Nigerian government supported the United Nation (UN) standard rules on the equalization of opportunities for People with Disability (PPD) [United Nations (UN), 1993]. There was also a decree promulgated in 1993 to enhance the social and societal position of people with disability (Ogundola, 2013; Dred, 1993). Nigerians living with disability are no better off when compared with others living in other parts of the developing world, in terms of the challenges they face — they are poor, marginalized and excluded (Lang and Upah, 2008). Despite the declaration of full participation in the disability agenda of the United Nations by the Nigerian government, Nigerians with disabilities are still faced with these and other related challenges (The Guardian, 2009).

A recent review of disability issues in Nigeria identified many factors why the disability agenda continue to suffer (Wolfensohn, 2003). Notable among these factors were: absence of disability discrimination laws, lack of social protection, poor understanding of disability issues by the public and poor access to rehabilitation services (Amusat, 2009). On the other hand, Lang and Upah (2008) lamented that disability is both a cause and a consequence of poverty. There is a strong relationship between disability and poverty with a cyclical tendency – poverty makes people more vulnerable to disability and disability reinforces and deepens poverty (Lang and Upah, 2008). Disability is an important factor, along with gender, race and caste that interacts to impoverish people and keep them poor (Dulle and Aina, 1999). People with Physical Disabilities (PPD) are often excluded from the mainstream of society and hence, may not contribute to the development of the society at all or optimally (The Guardian, 2009). It is increasingly being recognized that bringing People with Physical Disabilities (PPD) into the rice (*Oryza sativa*) production mainstream will have a significant effect in any plan to cut poverty in the developing country like Nigeria (Dred, 1993).

1.1 People With Physical Disabilities

There is a popular saying that ‘there is ability in disability’ that has not been properly observed in the training of People with Disabilities (PPD) to harness their inherent potentials to contribute in agricultural development in Nigeria. Evidences from previous work have shown that not much is done on the training needs and contributions of disabled farmers. Food and Agriculture Organization (FAO) of the United Nations Rome (2003) posited that, Agricultural Extension clientele traditionally include members of the farming families, among whom may be People with Physical Disabilities (PPD). In large cities and rural areas, People with Physical Disabilities (PPD) usually have the opportunity to attend special vocational schools and or professional training centres where they can acquire skills that are appropriate for various types of employment (Hill and Shown, 1995). After several years of attendance at such centers, skillful People with Physical Disabilities (PPD) that are mostly at the urban areas may engage in a servicing or producing activity that provides them with a continuous source of income, allowing them to live independently [Food and Agricultural Organization (FAO) Rome, 2013]. While, the disabled ones at the rural areas, on the other hand, rarely have such opportunities, since they live in villages with no, or very little, access to vocational schools and training centres (Ogundola, 2013; Ronald and Dulle, 2014).

Again, Ogundola (2013) viewed that People with Physical Disabilities (PPD) living within farming families do engaged in agricultural activities that are often obliged or willing to collaborate with their families in farm activities. However, in most cases, the disabled farmers do not received any appropriate agricultural extension training and are not skillful in any profession, so they hardly participate in farming activities and are forced to remain relatively useless (World Bank, 2013).

1.2 Implications For Agricultural Extension Services In Zangon-Kataf LGA

Food and Agriculture Organization (FAO) of the United Nations Rome (2003) suggested that, when establishing any agricultural extension programme for People with Physical Disabilities (PPD):

- a. certain characteristics of the farmer must be considered in order to enhance diffusion of innovations. For instance, the farmer could be someone who makes friends easily with other farmers, he or she is active in community development activities and is looked upon for advice;
- b. guidelines on demonstration may be made available to all the contact famers and every possible means be used to encourage their counterparts to visit result and method demonstration farms close to their areas;
- c. if good contact farmers among the disabled ones are successfully selected – they would co-operate with the Agricultural Extension Agent in disseminating relevant innovations to their counterparts in cells. In other words, leadership training approach could be an effective way to help-diffuse innovations among this category of farmers in the Zangon-Kataf Local Government Area (LGA) of Kaduna State, Nigeria.

1.3 Statement Of The Problem

The main problem facing disabled farmers is that, they have no (or poor) accessibility to the special vocational training schools, professional centers and agricultural extension agencies that would help them acquire appropriate vocational knowledge for rice and other relevant crop production. This meant that they are unable to assume a responsible and useful role within their families or contribute to independent farming operations. Such situations gradually lead to the general unemployment of this category of farmers in Zangon-Kataf LGA and as well create the feeling that People with Physical Disabilities (PPD) are unproductive and a burden to the family households that supports them. Among other consequences, this state of affairs becomes unbearable to especially People with Physical Disabilities (PPD) who see themselves as wasting their potentials and lives.

1.4 Objectives of the study

The broad objective of the study was to establish the information needs of the People with Physical Disabilities (PPD) in rice (*Oryza sativa*) production in Zangon-Kataf LGA so that special training and agricultural extension programmes may be prepared in response to their demand. However, the specific objectives used to guide the study were:

1. To assess the background characteristics of People with Physical Disabilities (PPD) in rice (*Oryza sativa*) production in Zangon-Kataf LGA;
2. To establish the information needs of the People with Physical Disabilities (PPD) in rice (*Oryza sativa*) production in the study area;
3. To compare the impact of training People with Physical Disabilities (PPD) in rice (*Oryza sativa*) production by Chiefdoms in Zangon-Kataf LGA.

2. METHODOLOGY

2.1 The Study Area

The study was carried out in Zangon-Kataf Local Government Area (LGA) of Kaduna state, Nigeria. Geographically, it is located between $9^{\circ}25' N$ and $10^{\circ}20' N$ and longitude $7^{\circ}45' E$ and $8^{\circ}40' E$ is bounded by Kaura LGA in the North, Jama'a in the South, Kachia in the West and Kauru LGA in the East (The Information Division of Zangon-Kataf Secretariat, 1999).

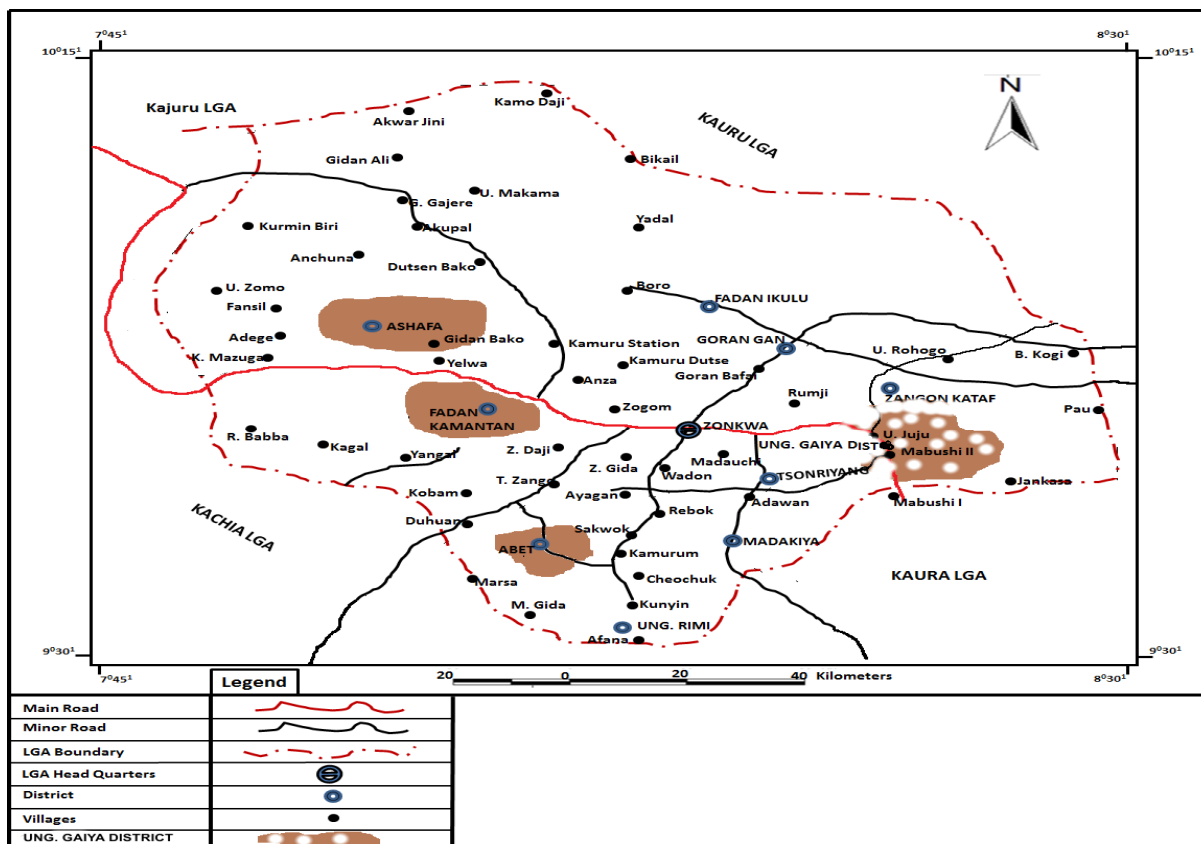


Figure 1: The map showing Zangon-Kataf Local Government Area and districts surveyed.

The Local Government has an area of 5,625 Square Kilometers (The Information Division of Zangon-Kataf Secretariat, 1999). The population size is 316,370 persons [National Population Commission (NPC), 2007].

2.2 Population and Sampling Procedure

The population for the study comprised of all rice (*Oryza sativa*) cluster producers in Zangon-Kataf LGA. In the study, random sampling techniques were used. Purposive sampling was used to select the districts and villages to be included in the study area. Ndagi (1999) argued that purposive sampling relies on the decision of the researchers, based on some well known criteria. However, out of the four (4) Chiefdoms: Atyap (16), Anghan (8), Bajju (18) and Ikulu (10) that made up fifty two (52) districts of Zangon-Kataf LGA, only four (4) districts (Jankasa, Fadan Kamantan, Abet and Ashafa) were selected, respectively. The Chiefdoms cum districts were purposefully selected based on the dominance of rice (*Oryza sativa*) production in the study area. Furthermore, two villages each from the districts (Kangwaza, Manyi-Minyam, Ungwan Sarki, Ungwan Hausawa, Afakab, Maraban, Yelwa and Ungwan Pah) were still selected based on the dominance of rice (*Oryza sativa*) farming – which gave a total of eight (8) villages. Thus, ten (10) respondents were randomly chosen from each village that resulted to a total sample size of eighty (80) People with Physically Disability (PPD) rice (*Oryza sativa*) farmers. Saunders, Lewis and Thornhill (2007) opined that a sample size of twenty (20) or more will usually result in a sampling distribution that is very close to the normal distribution and the larger the absolute size of a sample, the closer its distribution will be to the normal distribution. Out of the four Chiefdoms in Zangon-Kataf LGA, 25% of the population was used for the study. Simple random sampling was adopted since it gives each case in the population an equal chance of being included in the sample (Ndagi, 1999).

3. DATA COLLECTION TECHNIQUES

Data for the study were collected in 2015 using interview schedule and questionnaire. The interview schedule was used for the non-literate physically disabled farmers, while questionnaire was used for the literate ones. The interview schedule and the questionnaire contained information on the background characteristics of the rice (*Oryza sativa*) farmers, agricultural extension needs of the farmers, production systems used, marketing procedures used by the respondents and the production as well as marketing challenges of the crop in Zangon-Kataf Local Government Area (LGA).

3.1 Research Design

A cross-sectional research design was adopted for collecting the data in Zangon-Kataf Local Government Area (LGA). The design allowed researchers to collect information at once in a single point (Ndagi, 1999). The nature of study objectives dictated the adoption of such kind of research design. The sampling process required the development of a sampling frame of all the People with Physical Disabilities (PPD) farmers that grew rice in the selected villages contained in the household list in the local government rehabilitation office (Zonkwa) in collaboration with the Village Heads (Dagatai) in each village.

3.2 Instrumentation

A structured questionnaire was used for the purpose of sourcing information from the respondents in the study area.

3.3 Administration of the Instrument

The test instrument was administered to the farmers by the researchers. Data were collected from the farmers through a questionnaire using face-to-face interviews. However, a total of eighty (80) copies were administered and retrieved. For those who could not understand or speak English language, the questionnaire was translated with the help of interpreters in their dialects.

4. DATA ANALYSIS RESULT AND DISCUSSION

Data were analysed using descriptive statistics such as frequencies, percentages mean and standard deviation; ranking and Scheffe test.

4.1 Background Characteristics

Results in table 1 revealed the percentages of respondents according to background characteristics of the disable in rice (*Oryza sativa*) farmers in Zangon-Kataf LGA. Most of the respondents were males (70.0%), while few were females with 30.0%. In the same vein, The People with Physical Disabilities' (PPD) ages ranged from 31 to 40 years, with an average of 47 years; 24 men and 56 women were interviewed in the study. The result implied that males are still predominant in farming occupation in Zangon-Kataf LGA which confirmed the finding of Ozowa, (1997) that farming is largely an exclusive male occupation preserved in Nigerian farming families.

Probably, the situation is as a result of leadership system that puts men in charge of farming resources such as land which by tradition females are not allowed to own in most areas (Attah and Ejembi, 2015).

Table 1: Percentages of respondents according to background characteristics of the disable in rice (*Oryza sativa*) farmers in Zangon-Kataf LGA (N=80)

Item	Variation	Frequency	Percentage (%)
Sex	Male	24	30.0
	Female	56	70.0
Age category (year)	17 – 26	05	6.3
	27 – 36	09	11.3
	37 – 46	31	38.7
	47 – 56	10	12.5
	57 – 66	19	23.7
	67 – 76	06	7.5
Level of education	No Formal Education	03	3.8
	Primary	42	52.5
	Adult Education	05	6.3
	Secondary	23	28.7
	Post Secondary	07	8.7
Physical disabilities	Amputation & lameness	07	8.8
	Deafness	11	13.8
	Paralysis	21	26.2
	Blindness (one eye)	41	51.2

Source: Field Survey (2015).

Considering the level of education, many of the disable rice farmers had Primary School Leaving Certificates (52.5%) as their highest qualifications. The result is in line with the quotation of Attah and Ejibi (2015) in Ronald and Dulle (2014) that:

'... the level of education affects information accessibility, comprehension and adoption of new agricultural innovations and practices. Good educated farmers can easily access information from various sources, and can be able to create knowledge out of those sources'.

Also, the data proved that most of the respondents were moderately literate which is in consonance with the findings of Ozowa (1997) where literacy levels of majority of farmers were found to be within the primary school level of education. This level of educational qualification is helpful in raising perceptual threshold since there is a proportional relationship between perception and literacy level (Chapman and William, 1999). According to Ogunbameru (2005), perception, which is the process of attaining understanding of sensory information, is enhanced by a well developed sensory system and literacy plays a major role in this regard.

In the study, it was discovered that most of the People with Physical Disabilities (PPD) sampled were blind with one eye (51.2%) and had suffered for 10 to 51 years. On this basis, Afolayan (2011) observed that it is a basic fact that about 80% of information received by human brains comes from sense of sight. Any Extension Agent that encouraged repeated use of the senses of touch, hearing, taste and smell, may enable the blind to excel the sighted in rice farming.

4.2 Information Needs Of Rice Farmers

Prior to the item on identifying the felt-needs of rice farmers in the study area, researchers inquired whether the respondents needed training to improve rice production and marketing activities. The outcome proved that 68.5% of the respondents need training to improve its production and marketing. The answer suggested that agricultural extension services are very important elements of any economic development. Also, the findings agreed with that of Kamba, (2009) who argued that no community can develop without knowledge and it can only become knowledgeable if it recognizes and uses dissemination of agricultural innovations as tools for development.

Table 2: Ranks of respondents according to agricultural extension information on training needs for the disable rice (*Oryza sativa*) farmers in Zangon-Kataf LGA (N=80)

Operations	Information needed by the rice producers	Frequency	Mean	Rank
Pre-planting	Access to credit facility/capital	77	3.5	3 rd
	Selection of site	63	2.9	11 th
	Land clearing	59	2.7	14 th
	Land preparation	40	1.8	20 th
Planting	Use of new variety of the seeds	70	3.2	7 th
	Planting date	62	2.8	12 th
	Planting depth	44	2.0	19 th
	Planting space	35	1.6	21 st
	Planting methods	33	1.5	22 nd
	Seed rate	68	3.1	8 th
	Transplanting	66	3.0	10 th
Post-planting	Thinning	57	2.5	16 th
	Replanting	74	3.4	5 th
	Weather conditions	80	3.6	1 st
	Irrigation	47	2.1	18 th
	Fertilizer application	56	2.5	16 th
	Weed control	61	2.8	12 th
	Agro-chemical availability and their applications	72	3.3	6 th
	Harvesting	79	3.6	1 st
	Storage method	57	2.6	15 th
	Processing	69	3.1	8 th
Marketing	78	3.5	3 rd	

Table 2 ranked priorities of respondents according to agricultural extension information training needs for the disable rice (*Oryza sativa*) farmers in Zangon-Kataf Local Government Area (LGA). As evident in the study, most of the farmers need information on weather conditions as well as harvesting technology – which had a mean of 3.6. This may be due to the adverse effects of ‘climate change’ experienced by rice farmers in the area. This is in agreement with the studies of Food and Agriculture (FAO) (2013), World Bank (2013), and Lobell, Schlenker and Costa-Roberts (2011):

‘At present, our world is 0.8°C above pre-industrial levels of the 18th century. At current trends 2°C warming could be reached within one generation. Globally, warmer temperatures, changes in rainfall patterns, rising sea water levels, increased frequency and perhaps also severity of extreme weather, and ocean acidification are likely to cause greater short-term variability in the food supply and have long-term consequences for agriculture and food systems. The potential impact is less clear at regional or national scales, but the available evidence indicates that climate variability and change will exacerbate food insecurity and malnutrition in the areas that already suffer most from poverty and hunger and are also most vulnerable to extreme weather at present’.

Table 3: Compare the impact of training People with Physical Disabilities (PPD) in rice production by Chiefdoms in Zangon-Kataf LGA

Chiefdoms	Mean	Standard Deviation (S. D.)	F-ratio	F-Probability	Decision
Anghan	1.9083	0.4099	4.48	3.88	Significant
Atyap	2.4149	0.2534			
Bajju	2.3626	0.2644			
Ikulu	2.2854	0.3147			

If F-ratio \geq F-Probability. Reject H_0 at Level of Significance (α) of 0.05.

The result revealed that there was a statistically significant difference of 0.05 in the level of training of People with Physical Disabilities (PPD) in rice (*Oryza sativa*) production as F-ratio (4.48) was greater than F-Probability (3.88). According to the Scheffe test, result meant that there is significant relationship between impact of training People with Physical Disabilities (PPD) in rice farming and agricultural extension services in Zangon-Kataf Local Government Area (LGA).

In a comparison of the level of training according to each type of need in rice (*Oryza sativa*) production among People with Physical Disabilities (PPD) in different Chiefdoms, the outcome was shown as follows:

1. Agricultural Extension Agents in Atyap and Bajju areas had trained the rice (*Oryza sativa*) farmers, their children and families more than those in Anghan Chiefdom, at a statistically level of 0.05;
2. The Agents in Atyap, Bajju and Ikulu Chiefdoms had trained the rice (*Oryza sativa*) farmers, their children and families more than those in Anghan Chiefdom, at a statistically level of 0.05.

5. CONCLUSION

There is need to appreciate the training needs of the disabled farmers and as well realize that they are individuals that must be respected and cared for as members of the society who have concrete contributions to make to the development of the agricultural sector. Every Agricultural Extension Agent must open up his/her mind to appreciate these individuals in the society. Therefore, the research revealed that most of the respondents were males (70.0%), between 31 to 40 years, had Primary School Leaving Certificates (52.5%) as their highest qualifications, blind with one eye (51.2%) and suffered for 10 to 51 years. They need information on weather conditions as well as harvesting technology – which had a mean of 3.6.

When the data was subjected to Scheffe test, the result revealed that there was a statistically significant difference of 0.05 in the level of training of People with Physical Disabilities (PPD) in rice (*Oryza sativa*) production as F-ratio (4.48) was greater than F-Probability (3.88). This meant that there is significant relationship between impact of training People with Physical Disabilities (PPD) in rice farming and agricultural extension services in Zangon-Kataf LGA. Thus, the study established that disabled rice farmers in Zangon-Kataf need more agricultural extension training to improve rice productivity and marketability in the area.

6. RECOMMENDATIONS

Base on the findings, the following recommendations were made for institutional consideration:

1. special attention should be paid to the viewpoints, abilities, competencies, efficiencies and potentials of farmers with physical disabilities in Zangon-Kataf LGA. This would help to update knowledge on the emerging technologies involved in producing rice and also the appropriate channel its marketing;
2. Agricultural Extension training needs of People with Physical Disabilities' (PPD) in rice (*Oryza sativa*) production should be taken serious and remember that they depend on families for support and assistance;
3. People with Physical Disabilities' (PPD) expect cooperation, assistance and services from Agricultural Extension Agents and other related farmers from private institutions and public organizations to help continue their activities easily and more satisfactorily;
4. More technical and financial support, facilities for farming rice (*Oryza sativa*) and other related crops, farming inputs and loans, special agricultural training, more social respect and follow-up extension services be provided to People with Physical Disabilities (PPD) as stimuli for food production in Zangon-Kataf Local Government Area of Kaduna State, Nigeria;
5. Government and non-government organisations should deploy more Agricultural Extension Workers to various producing areas to increase the level of contact with the producers;
6. Efforts should be made by the government and non-government organisations to encourage and support the establishment of demonstration farms through the extension agents to demonstrate various production techniques to the producers including dry season production through irrigation;
7. Non-Governmental Organizations (NGO) should also help to provide some of the inputs, infrastructures, logistics, marketing information and finance needed for effective production and marketing of the crop.

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APPENDIX

Table 4: Percentages of respondents according to channels of information used by the disable rice (*Oryza sativa*) farmers in Zangon-Kataf LGA (N=80)

Methods	Channels	Frequency	%
Individual	Informal contacts (relatives, neighbours, friends, leaders & others)	075	11.6
	Cell phones communication	008	1.2
	Office calls and inquiries	022	3.4
	Contact with Agricultural Extension Agents	066	10.2
	Correspondences or letters	040	6.2
	Farming experience	073	11.3
Group	Demonstrations (method/result)	055	8.5
	Discussions	068	10.5
	Field days/trips	021	3.3
	Conferences	050	7.8
Mass	Circular letters	007	1.1
	Newspapers/magazines	062	9.6
	Posters, pamphlets and leaflets	010	1.6
	Exhibits and displays	016	2.5
	Radio and Television broadcast	070	10.9
	Library (internet) and other related information centers	002	0.3

Source: Field Survey (2015).

Table 5: Ranks of respondents according to marketing channels used by the disable rice (*Oryza sativa*) farmers in Zangon-Kataf LGA (N=80)

Choices	Channels	Frequency (Freq.)	Percentages
Single	Farm gate	10	12.5
	Street buyers	09	11.3
	Markets	12	15.0
	Cooperatives	05	6.3
Multiple	Cooperatives, farm gate, street buyers and markets	13	16.2
	Cooperatives and farm gate	04	5.0
	Farm gate and street buyers	11	13.7
	Street buyers and markets	14	17.5
	Markets and Cooperatives	02	2.5
	Total	80	100.0

Source: Field survey (2015)

Table 6: Percentages of respondents according to preference channels of information among the disable rice (Oryza sativa) farmers in Zangon-Kataf LGA (N=80)

Method s	Channels	Not Preferred		Least Preferred		Preferred		Most Preferred		Totals	
		Freq	%	Freq	%	Freq	%	Freq	%	Freq	Percentage (%)
Individual contact	Informal contacts (relatives, neighbours, friends, leaders and others)	005	6.3	003	3.7	036	45.0	036	45.0	080	
	Cell phones communication	041	51.3	015	18.7	010	12.5	014	17.5	080	
	Office calls and inquiries	031	38.8	027	33.8	009	11.2	013	16.2	080	
	Contact with Agricultural Extension Agents	019	23.8	016	20.0	011	13.7	034	42.5	080	
	Correspondences or letters	050	62.5	011	13.8	006	7.5	013	16.2	080	
	Farming experience	002	2.5	038	47.5	003	3.8	037	46.2	080	
	Sub-total	148	30.8	110	22.9	075	15.6	147	30.7	480	37.5
Group contact	Demonstrations (method/result)	019	23.8	016	20.0	011	13.7	034	42.5	080	
	Discussions	029	36.3	013	16.2	012	15.0	026	32.5	080	
	Field days/trips	023	28.8	019	23.7	016	20.0	022	27.5	080	
	Conferences	024	30.0	010	12.5	017	21.3	029	36.2	080	
	Sub-total	095	29.7	058	18.1	056	17.5	111	34.7	320	25.0
Mass contact	Circular letters	029	36.3	011	13.8	009	11.2	031	38.7	080	
	Newspapers/magazines	051	63.8	016	20.0	006	7.5	007	8.7	080	
	Posters, pamphlets and leaflets	025	31.3	012	15.0	034	42.5	009	11.2	080	
	Exhibits and displays	026	32.5	011	13.8	023	28.7	020	25.0	080	
	Radio and Television broadcast	028	35.0	009	11.3	023	28.7	020	25.0	080	
	Library (internet) and other related information centers	049	61.3	006	7.5	021	26.2	004	5.0	080	
	Sub-total	208	43.3	065	13.5	116	24.2	091	19.0	480	37.5
Total	451	35.2	233	18.2	247	19.3	349	27.3	1280	100.0	

Source: Field Survey (2015).