



# The background factors, participation and empowerment among participants of afforestation programme in Toshia, Northeast, Nigeria

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### ABSTRACT

Enthusiastic interest to protect their environments for improved agricultural production has led rural communities to adopt a desert encroachment control strategies through community participation. Thus, the present study attempts to compare the perceptions, participation and empowerment between socio-demographic characteristics of the participants of afforestation programme in Toshia community, Nigeria. Self-administered questionnaire was used to collect data from 150 participants who were purposively selected. The data was analysed using t-test for the comparison and analysis. The results of the study revealed that there were significant differences in perception, participation and empowerment between ethnic groups, age and education level of the participants. The study suggests a guidance for community development professionals with a strategy for assessing the community and developing a principle based approach outreach, perception and participation.

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### Introduction

Desertification is an environmental phenomenon which attracted global concerns over its effect on the livelihood of millions of people. In Sudano-Sahelian region of West Africa, people suffered serious devastation of drought in the late 1960 and early 1970s (1968-1973) which was attributed to desertification. The problems are more pronounced in the Northern parts of Nigeria as more and more of the land surfaces are turned into desert-like landscape. Inadequate rainfall, high temperature, agricultural activities and felling of trees for domestic use, were the main causes of the phenomenon (NEST, 1991).

Studies on desertification have shown that it is an impediment to social and economic development (Sharifi et al, 1999; Clements et al 1963; Fryrear, 1981; Hyers, & Marcus, 1981; Leathers, 1981; Leys & Meqainsh, 1994; Bach, 1998). Some forms of desertification are irremediable on human time scales at reasonable cost (Whitford, 1996; Dregne, 1995). Rural people in these regions ultimately depend on the effective use of natural resources (Reynolds, 2001). However, it is widely recognised that these lands are prone to desertification and it is worldwide problems directly affecting 250 million people and affects one-third of the world surface (UN Convention to Combat Desertification, UNCCD 2003). According to UNEP (1992) classification system, 41% of the earth's land area is hyper arid, arid, semi arid or dry sub humid (collectively the dry lands). UNEP further estimated that by 1992, 69% of the dry lands, excluding the hyper arid deserts, were already moderately to severely depredate. Dregne et al (1991) contended that, more than 900 million inhabitants of the dry lands are considered at risk of collapse of their traditional land use system. Mass starvation continues to be a problem in Africa (Lean, 1995).

UNCCD (1994) has various methods for combating desertification through bottom-up approaches for rural development. This convention provides a suitable framework for implementing specific measures to combat desertification which include non-technical causes, consequences of desertification and desert encroachment phenomena. It gave much emphasis on the involvement of rural communities in developing and implementing specific measures to combat desertification by development of long-term strategies and policies.

In its effort to reduce the effects of desertification, Toshia community adopted afforestation programme to combat the menace of desertification. This effort was achieved through community participations. At the initial stage a group of people who had shown concern over the consequences of desertification in the community, had discussions and later mobilised the community at the grassroots level towards the needs for formation of afforestation programme in 1997. The programme began with planning process and development of a broad framework to indicate the extent of the area to be covered with the aim of mitigating the effects of cyclonic wind and improving forest and agricultural productions. Community members particularly youths were mobilised through tree plantings campaign and were taught how to nurse tree seedlings and plant them to make a shelter belt as barriers against desert encroachment.

Afforestation programme is a process involving many groups with different goals and interests behaving rationally. One of the dilemmas of the community has been that various interests are conflicting and efforts to resolve the conflicts are depending on a range of social and economic issues food security and other factors (Zomer et al, 2008). Vigar and Healey (2000) observed that such communities are handicapped by poor representation in both formal and informal processes.

Countries that engaged effectively in expanding access to modern services have exercised a great deal of foresight and vision toward community development (Katjiua 2007). The community participation in comprehensive approaches for rural community development becomes an obligatory demand and has been recognised by development intervention agencies. It was also supported by Council regulations on rural development in the framework of Agenda 2000, in terms of development of the economic, ecological and social functions of forests in rural areas (Flies, 1999). Participatory development is intended to result in the empowerment of the communities involved in the process and adopting participation in afforestation programme which is re-planting trees and grasses can help stabilise the soil and cut down the effects of erosion cause by wind and rain as a means for improving the effectiveness and efficiency of community development. The need for community involvement, awareness and participation was recognized by development intervention in recent decades have tend to focus on transfer of knowledge and resources to the beneficiary rural communities through top- down approaches (FAO, 1991). Cernea & Ayse, (1997), state that top down approaches have demonstrated failure to reach and benefits rural communities. This realization led the community to adopt bottom up approaches to development through participation in afforestation programme.

Several studies have showed that factors such as socio economic benefits, age, and education influence rural community's participation in afforestation programme (Victor & Bakare, 2004; Maskey et al., 2003). Chowdhury (1994) argues that rural community participation in afforestation programme is for the anticipated economic and environmental benefits, He further observes poor socio economic background of the rural communities in term of occupation and income level which influence their participation in afforestation programme. Through rural community's participation in afforestation programmes because they are able to plant trees and harvest them within their lifetime. Rural community participation in afforestation programme could be attributed to socio-cultural, economic and environmental factors, (Victor & Bakare, 2004). Participation make people accept a decision more readily when they have been involved in making it, diverse inputs often leads to a high quality decision, yet another is that, which helps to developed an environment of trust, which helps to developed an achievement orientation among individuals (Cole 2007; Perkin et al 1995) argued that, theoretically citizen's participation foster self-efficacy as residents work collectively to solve community's problem. Citizen's participation is important to all grassroots organization but more vital to the community empowerment because group is tied to particular social movement or issues.

In its effort to reduce the effects of desertification, the community adopted afforestation programme by establishment of a shelter belt through community participations. However, the growing concern of the individuals towards the programme might lead to the possibility of future development in the area. However, it is in line with this backdrop that this study wishes to compare perception, participation and empowerment in terms of socio- demographic characteristics of the respondents. .

## **Methodology**

### **Research design**

This study adopted quantitative approach by employing survey design. The choice of the method is because it investigates phenomena from the samples of the population as

representatives and the participants as the unit of analysis (Sulaiman, 1998). Survey design was used based on the facts that understanding quantitative research is committed to seeing the world from the participants' perspective.

### **Respondents of the study**

The respondents of this study were selected from three wards (Afunori, Bulamari and Kasuwula) in Toshia community, Yunusari local government of Yobe State, Nigeria, who participate in afforestation programme. The sampled respondents were selected for the administration of questionnaire survey, who participates in the programme. The participants were identified as key elements in developing rural communities. For the purpose of this research, participants are defined as those people who are involved in rising and planting trees with the aim of protecting their environment in order to enhance community development. A total of 150 respondents were selected in the three wards of the study area. The sampling technique used in the selection of the respondents was purposive sampling because it has the advantage choosing those who are in the mind of the researcher.. The sixty participants (60) were selected from Afunori ward, 40 from Bulamari ward and 50 from Kasuwula ward of the community.

### **Instruments and measurement**

#### **Questionnaire Administration**

A set of structured questionnaire consisting of close-ended questions (with answers options) was used to gather information and it was divided into five sections. According to Dillman (2000) the questionnaire is a well established method of data collection within the context of social research. The measurement scale for the study was based on review of literatures and some empirical studies. The study measures participation, perception and perception in desertification and afforestation programme. Maddox (1985) opined that the scale was used in research because of its high validity. On the other hand, Hair et al, (1998) suggest the use of the Likert scale for research design that used self administered survey. In addition, Zikmund (2003) asserts that it is simple to administer. Therefore, the researcher modified the questions and adopted it in this study. The questionnaire consists of socio-economic and demographic background of the respondents. The background variables studied were age, ethnicity, origin, gender, religion, educational background.

#### **Process of data collection**

The data collection processes in this study involved the use questionnaire to collect information about the socio-economic and demographic characteristics of the respondents and their perceptions towards the afforestation programme. Labonte and Laverack (2001) state that one way to measure the characteristics of the respondents and their perception is to assess each of their dimensions using survey. Hence, this study adopted questionnaire to gather the data. Since most of the participants are farmers who cultivate their farms between July to October every year, the data was collected during dry. The choice of this season was because most of the people in the study area used to be available at home not farm as it coincides with period after harvest. Prior to the actual data collection, the researcher had contacted the village head, the community elders and the leadership of the afforestation programme in order to enlighten the community about the survey and the involvement of the local people in the survey of the afforestation programme. In addition, interactions had taken place between the researcher and the mentioned community members. The interactions helped

the researcher to ensure that the survey instrument (questionnaire) developed answer the study objectives and it is in line with the objectives of the programme. The researcher used camel, donkey motor vehicle and tracking to pass through the sand dunes and desert shrubs in order to connect with the participants.

**Data analysis**

The data collected were analysed using the SPSS statistical software programme. Inferential statistics were used in the analyses. The statistical procedure used for the data analyses was t-test to determine the difference in perception, participation and empowerment between ethnic group, age group and educational levels.

**Results and discussion**

**Differences in perception, Participation and Empowerment between ethnic groups**

One of The study objectives was to determine the significant different that exists between ethnicity in terms of perception, participation and empowerment t-test method was performed to achieve this objective. Table 1 Present the result of the t-test for the difference that exists in the perception, participation and empowerment with ethnicity. The t-test analyses revealed that only participation was found to be with significantly different with moderate effect. But therefore, the results revealed that there is a significant difference in perception, participation and empowerment between Kanuri and other ethnics perception scores for Kanuri (M= 70.46, SD=8.54) and others ethnics (M=66.28, SD=5.68), where t (149) = 2.754,  $p = .007$ . There is also significant difference in Participation scores between Kanuri (M=82.68, SD=6.40) and others ethnics (M=78.94, SD=6.82), Where t (149) = 3.00  $p = .003$ . There is a significant difference in empowerment scores between Kanuri (M=114.73, SD=12.48) and other ethnics M=110.00, SD=10.30), where t (149) = 2.061,  $p = .041$ .

**Table: 1 Mean difference in perception, participation and empowerment between ethnicity**

	Ethnicity	Mean	SD	t	p
Perception	Kanuri	70.46	8.54	2.754	.007
	Others	66.28	5.68		
Participation	Kanuri	82.68	6.39	3.00	.003
	Others	78.94	6.82		
Empowerment	Kanuri	114.72	12.47	2.06	.041
	Others	110	10.29		

Significant at  $p < 0.05$

The results imply that the Kanuri's have many available historical and cultural resources that the community depend on. The other reason is that, there is self help approach within the Kanuri in the community. The study shows that, there is a clear difference between Kanuri and others in relation to perception and empowerment and implied that, the Kanuri in the community have made a better effort in afforestation program comparatively with others. This is an indication of better social capital.

**Differences in perception, participation and empowerment between age categories**

A one-way between-groups analysis of variance (ANOVA) was performed to investigate the differences in the mean obtained by perception, participation and empowerment in afforestation programme. The mean scores obtained by the three independent variables were illustrated in table 2. The ANOVA test revealed that there were statistical significant differences in the mean score of perception between the age 20-30, 31-40 and 41-50 (M=68.09, 71.80 and 69.51 SD=7.91, 9.74 and 5.86),

( $F=2.785$   $p =0.01$   $n =150$ ), and Participation (M=80.91, 82.53and 82.64 SD=7.595.94 and 5.34), ( $F = 1.18$   $p =.001$   $n =150$ ) and empowerment (M=110.48,116.95and 115.91SD=13.21,10.79 and 9.86) ( $F = 4.854$   $p =.009$ ,  $n =150$ ). The post hoc test using LSD multiple comparisons shows that there was a statistically significance in the mean of pairs of perception, and empowerment, with age: perception 31-40 years  $p = 0.020$ ), Empowerment (31-40 years  $p =0.006$ ), (41-50years  $p =0.025$ ), (20 years to 31years,  $p =0.025$ ). LSD post Hoc comparisons shows no statistically significant values for participation across age of the respondents.

**Table: 2 Mean differences between perception, participation and empowerment with age category**

	Age	N	M	Std.Devi	F	Sig.
Perception	20-31	72	68.0972	7.91533	2.785	.001
	31-40	41	71.8049	9.74223		
	41-50	37	69.51	5.86241		
Participation	20-31	72	80.9167	7.59123	1.182	.001
	31-40	41	82.5366	5.94600		
	41-50	37	82.6486	5.34486		
Empowerment	20-31	72	110.4861	13.21330	4.854	.009
	31-40	41	116.9512	10.79340		
	41-50	37	115.9189	9.86120		

The findings of this analysis revealed that there is a significant difference between the age category of the respondents in terms of participation, perception and empowerment in the afforestation programme. This result was supported by Bretty (2003), social cohesions influence participation at the neighbourhood level. In their prior research social cohesion could influence young people participation in physical activities via several mechanisms to the extent to which parents are involved with their children as well as with other parents to participate to improve community life.

**Mean differences between perception, participation and empowerment with level of education**

A one-way between-groups analysis of variance (ANOVA) was performed to investigate the differences in the mean obtained by perception, participation and empowerment in afforestation program. . The mean scores obtained by the three independent variables were illustrated in table 3 The ANOVA test revealed that there was a statistically significant difference in the mean scores between the three independent variables: perception (M=72.2821, SD=8.91465) where t (147)=  $F$  3.646  $p = 0.28$ . Participation (M=84.4872, SD=2.98005), where t (147)  $F$  4.811,  $p=0.009$ ) and empowerment (M=114.0303, SD=11.66075), where t (147)  $F$  (3.512,  $p=0.022$ ) this shows that there is significance differences in empowerment  $F$  (.3512),  $p=0.022$ . Post hoc results using LSD multiple comparison test shows that there was a statistically significant in the mean differences obtained for the following pairs: primary school and illiterate (MD -4.79720,  $p = 0.012$ ), primary school and secondary school (MD 3.39744  $p = 0.032$ ).

**Table: 3 Mean differences between perception, participation and empowerment with level of education**

	Edu.level	Mean	Sd	df	F	p
Perception	Illiterate	67.48	5.05	147	3.646	.028
	Primary	72.28	8.91			
	Secondary	68.88	8.48			
Participation	Illiterate	81.54	2.98	147	4.811	.009
	Primary	84.48	6.10			
	Secondary	80.53	7.66			
Empowerment	Illiterate	118.03	12.90	147	.117	.022
	Primary	114.35	11.66			
	Secondary	113.44	12.15			

The results indicated that there is significant difference in empowerment scores for level of education, the findings implies

that the respondent's education is considered as the key factor in empowerment, this is the fact that afforestation programme had become a medium through which the respondents shared knowledge, information and experience with other members of the community. This is one of the ability that the participants learned through participation as they learn to achieve their capacity to achieve their goals. This finding was supported by Hogue & Hohara (2009) that factors such as knowledge exposure to information will contribute to empowerment of rural populaces. Education has the strength to enable individuals to think critically and to question their disempowerment (Dighe, 1998). Eva Thors et, al (2004) is his view that empowerment can be measured directly through education level and knowledge. Education is the key factor to increase empowerment by increasing their self confidence and understanding of how to operate (Cochrane, 1997). But finding from Kwapong (2006) and that of Tsikata (2001) contradict with this finding both argue that level of education does not influence empowerment.

### Conclusion

The research set out with three aims the findings from the first aim is to determined the significance difference that exist between ethnicity with perception, participation and empowerment, the research found that there is a significant difference in perception and empowerment between Kanuri's and other ethnics. However, the result implies that the Kanuri's in the community have many available historical and cultural resources that the community depend on and there is self help approach within the Kanuri's. The second aim is to determine the mean difference between perception, participation and empowerment with age category in afforestation programme. One way analysis of Varian (ANOVA) was performed the findings indicate that there were statistical significance difference in the mean scores of perception between the age of 21-30, 31-40 and 41-50 is shows that there was a statistically significance in the mean of pair of perception and empowerment with age. Finally the third aim of the research was to investigate the difference between perception, participation and empowerment in afforestation programme. The result reveals that there is a significance difference in empowerment scores for level of education this shows that the respondent's education is considered as the key factor in empowerment. The study has shown that there is a importance in perception, participation and empowerment this can be enhance in future study in order to improve community participation. The study has developed an analytical framework within which has potential to be used to analyse community in development initiatives, as a tools in planning for community development activities.

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