

Analysis of farmers' participation in agricultural extension programmes in North-western Nigeria

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Abstract

This study assessed farmers' participation in agricultural extension intervention programmes in the North-western zone of Nigeria. Structured, pretested and validated interview schedule was used to collect data from 600 respondents selected in Kaduna and Kano States through multi-stage random sampling techniques. Frequency table, percentages, and weighted mean were used to analyze the data. Chi-square was used to determine the relationship between farmers' socio-economic variables and their level of participation. Results showed that farmers' participation in extension intervention programmes was generally low. In order of severity, major hindrances to participation include poor involvement of people at the conception stage, lack of continuity, inadequate training, and inadequate extension agent. Socio-economic factors found to influence farmers' level of participation include education ($X^2=6.92$; $p<0.05$), membership of farmers' association ($X^2=6.18$; $p<0.05$), age ($X^2=6.12$; $p<0.05$), farming experience ($X^2=5.64$; $p<0.05$), income ($X^2=4.61$; $p<0.05$), benefits of association membership ($X^2=3.41$; $p<0.05$), and secondary occupation ($X^2=3.13$; $p<0.05$). The study recommended a shift from the traditional supply-driven extension to a more participatory one which involves farmers from the conception stage.

Keywords: Participation, extension intervention programme

INTRODUCTION

There is broad agreement that widespread participation of local stakeholders (different categories of farmers, plus representatives from private-sector firms, rural banks, NGOs and other groups) is an essential element affecting the success of agricultural extension programme. This participation according to Swanson (2008) should be through formally organized advisory committees and/or governing boards that represent all of the major stakeholder groups within the service area. External catalytic push was necessary because of the slow rate of growth in food production compared with a faster rate of growth in demand occasioned by increases in population and incomes. Furthermore, the agricultural extension system, meant to guide and facilitate farmers to improve their capability, needed regular re-invigoration in order to enjoy clientele involvement and participation. The characteristic shortage of competent extension agents also calls for regular, efficient and effective clientele participation in order to ensure sustainability.

The word participation has been interpreted in different ways by different people. Pretty (1994) identified how people participate in development programmes and projects in a seven (7) point typology of participation thus: passive participation, participation in information giving, participation by consultation, participation for material incentives, functional participation; interactive participation; and, lastly, self-mobilization. It is clear from this typology that the term participation should not be accepted without appropriate qualification. Participation by local people is one of the critical components of success in irrigation, livestock, water, and agriculture sectors (World Bank, 1994;

and Pretty, 1995). The terms "people's participation" and "popular participation" have now become part of the normal language of many development agencies (Bhatnagar & Williams, 1992). The term "participation" has been used to justify the extension of state control and to build local capacity and self-reliance; it has been used for data collection and for interactive analysis. Participation has often centered on encouraging local people to sell their labour in return for food, cash, or materials. Yet these material incentives distort perceptions, create dependencies, and give the misleading impression that local people are supportive of externally driven initiatives (Kerr, 1994). This means that "more often than not, people are asked or dragged into participating in operations of no interest to them, in the very name of participation" (Rahnema, 1999). If the objective of development is to achieve sustainable development, then nothing less than functional participation should suffice.

Participation is the act of working with others making value judgments and determining causes of actions within a social situation or structure. It is a process of combining the knowledge and vision of a man to supplement physical and mental needs to fellow men. Studies in different countries in Africa, have found that people participated in very different ways (Guijt, 1991). Narayam (1993) found that, in Africa, Asia and Latin America, participation was the significant factor contributing to project effectiveness, maintenance of water systems and economic benefits.

Participation promotes innovation and ownership, increase adoption rates and acceptability of new technologies. The approaches are flexible to adapt to suit each set of new conditions. It is an

opportunity to encourage linkages between the various actors such as researchers, farmers, extension agents and the input providers and increase learning from each other. The methods ensure farmers' responsiveness, build farmers' capacity to reflect, analyze and take action, and improve rapport between government and civil society. It also establish transparency, institutes accountability for stakeholders, assist in equity goals i.e. fair distribution of resources, improves performance since development lessons learnt catalyze project staff output.

As a matter of principle, clientele participation depends on one, the availability of an intelligent and rational leader (who is very generous); two, the extent to which the people have an effective voice or input in determining rules and conditions under which they live and work; and three, when there is: (i) a common goal or purpose, (ii) willingness and readiness to serve; and (iii) open communication which make the principles to be operational. People will be ready to participate fully in a program that affects them if they have been involved in the proposal and formulation of policies relating to the program.

Various extension intervention programmes have been supported by different international donors especially the World Bank and other multinationals. The extension intervention programmes undertaken by the States include: National Programme on Agriculture and Food Security (NPAFS), FADAMA II, Root and Tuber Expansion Programme (RTEP), Nerica rice production, Community-Based Agricultural and Rural Development Programme (CBARDP), Agricultural Enhancement, African Development Foundation, and Commercial Agricultural Development Project (CADP) etc.

This study was designed to assess the level of farmers' participation in extension programme; ascertain their perception on the factors affecting participation in the North-Western zone of Nigeria; and determine the relationship between socio-economic characteristics and level of participation by farmers.

METHODOLOGY

Twenty-five farmers were selected from twelve communities from twelve local government areas in two States (Kaduna and Kano) in the North-west agro-ecological through multi-stage sampling technique. The local government areas include Jemaa, Kudan, Kaura, Sabon-gari, Zango-Kataf and Zaria (in Kaduna State) and Bagwai, Kumbotso, Kura, Madobi, Makoda and Tofa (in Kano State). A total of 600 respondents were used for the study.

Structured interview schedule was used to elicit information from the selected respondents with

the assistance of trained enumerators who understand the local language. Descriptive statistics like frequency counts, means, weighted mean score and percentages, and inferential statistics (Chi square) were employed to analyze the data collected.

To measure the level of severity of factors hindering farmers' participation in extension intervention programme, fourteen (14) problems were listed on a 4-point scale of Very Serious, Serious, Less Serious and not serious and assigned weight of 4, 3, 2, and 1 respectively. The mean for each problem was obtained by multiplying the point scale by the number of respondents in each point scale. Any problem with a mean score of equal or above the cut-off mean of 2.5 was regarded as perceived as serious and any mean of lower than 2.5 was perceived as not serious. Areas where clientele participation is crucial include programme planning, programme implementation, and programme evaluation including their contribution in cash or kind. Each of these items was rated as very high, high, moderate, low, or not at all with the assignment of 5, 4, 3, 2, 1 and 0 respectively. A weighted mean was then calculated to get the overall perception of respondents' level of participation. A decision point of 2.5 was set as high participation for each of the items while scores below 2.5 was regarded as low participation. Finally, the average of the weighted mean was calculated to arrive at the overall level of participation.

RESULTS AND DISCUSSION

Socio-economic characteristics of respondents

As indicated in Table 1, most respondents were male (88.7%), within the age range between 31 – 50 years (59.0%), married (97.0%), and had primary/Koranic education (70.8%). A large majority (89.2%) had above 10 years of farming experience; and (63.8%) cultivating between 1 -5 hectares of land. The long experience and the desire to increase their productivity could have enhanced their participation in intervention programmes. Also, respondents were engaged in different farming enterprises: crop (98.3%), livestock: cattle (33.2%), sheep and goat (72.2%), poultry (66.3%), fishing (2.3%); and fish farming (0.7%). Over 64.0% of the respondents belong to farmers' association enjoying different benefits. Over 60.0% realized only N200,000 and below as annual income. Also, respondents were engaged in different farming enterprises: crop (99.3%), livestock: cattle (43%), sheep and goat (83.8%), poultry (53.5%), fishing (1.0%); and fish farming (0.8%). The results indicate some level of homogeneity in farmers' characteristics. This could have enhanced group work and togetherness with attendant positive effects in active participation.

Table 1: Socio economic characterization of farmers in the North West zone (n = 600)

Variables	Frequency	Percentage
Sex		
Male	532	88.7
Female	68	11.3
Age		
30 and below	27	4.5
31 – 50	344	59
51 & above	219	36.5
Marital status		
Single	18	3
Married	582	97
Household size		
5 and below	135	22.5
6 – 10	210	35
11 and above	255	42.5
Level of Education		
None	62	10.4
Primary	114	19
Koranic/adult education	311	51.8
Tertiary education	113	18.8
Farming enterprise*		
Crop production	590	98.3
Cattle	199	33.2
Sheep & Goat	433	72.2
Poultry	398	66.3
Aquaculture	4	0.7
Fishing	14	2.3
Secondary occupation		
Trading	143	23.8
Civil servant	55	9.2
Artisan	64	10.7
Others	338	56.3
Farming experience		
1 – 10	65	10.8
11 – 20	141	23.5
Above 20	394	65.7
Farm size (ha)		
< 1	17	2.9
1 – 5	383	63.8
6 – 10	144	24
Above 10	56	9.3
Membership of Association		
Yes	388	64.7
No	212	35.3
Income of farmers (N/annum)		
1,000 – 100, 000	237	39.5
101,000 – 200,000	150	25
201,000 – 300,000	85	14.2
301, 000 – 400,000	35	5.9
401,000 – 500,000	24	4
Above 500,000	69	11.5
Benefits derived from membership of association* (n=388)		
Loan/subsidy	57	14.7
Exchange of idea/knowledge/information	28	7.2
Farm inputs	247	63.7
Increased income	15	3.9
Psychological satisfaction	74	19.1
Training plot	22	5.7
Extension visits	15	3.9

Source: Field survey, 2009

*Multiple responses

Level of participation in extension programme

As indicated in Table 2, the level of participation in all types of extension intervention programme can generally be described as low since the weighted mean was less than the mean of 3. In essence, farmers’ do not participate in extension programme as expected. This can be attributed to the problem of the traditional top-down extension approach where the extension agent “knows all” instead of being a facilitator by encouraging the farmers to be part of the whole process. Monitoring and evaluation recorded the lowest participation indicating that farmers were hardly involved in this exercise. Monitoring and evaluation is very germane to the success of any agricultural extension programme (AEP) as successes depends on the efficiency and effectiveness to which M&E is performed. The major purpose of monitoring and evaluation is to provide the management with

information on how efficiently the extension organization is operating. Das (1995) in her study on “improving the relevance and effectiveness of agricultural extension activities for women farmers”, found that monitoring and evaluation system of extension activities in Nigeria is poor. According to her, this could be due to scarce resources (funds, inadequate extension personnel, transportation, etc.) of the national governments, inadequate training of extension personnel in the methods and skills of monitoring and evaluation of programme activities and the lack of clear directives from the extension service. This situation was buttressed by Adebayo, Babu and Rhoe (2009) who stated that inadequate monitoring and evaluation arrangements for policy implementation are also constraints and have led to situations in which policies and programs have lost sight of their original goals.

Table 2: Respondents’ level of participation in extension intervention programmes in North-West Zone (n = 600)

Types/Expected areas of participation of clientele in extension programme	Levels of participation							
	Very High (5)	High (4)	Moderate (3)	Low (2)	Not at all (1)	Sum Total	Weighted mean	Over-all Perception
Programme planning	30 (5.0)	31 (5.2)	27 (4.5)	14 (2.3)	498 (83.0)	881	1.47	Low
Programme implementation	43 (7.2)	141 (23.5)	60 (10)	42 (7.0)	314 (52.3)	1357	2.26	Low
Monitoring & Evaluation	18 (3.0)	29 (4.8)	22 (3.7)	42 (7.0)	489 (81.5)	845	1.41	Low
Cash contribution	31 (5.2)	112 (18.7)	103 (17.2)	78 (13.0)	276 (46.0)	1344	2.24	Low
contribution in kind	58 (9.7)	127 (21.2)	144 (24.0)	47 (7.8)	224 (37.3)	1548	2.58	High
Average Weighted Mean							1.99	LOW

*Figures in parenthesis are percentage

Problems inhibiting farmers’ participation in agricultural extension programme

Myriads of problems hinder farmers’ participation in extension programmes as indicated in Table 3. Ranked as most serious by famers were poor involvement of people at the conception stage (\bar{x} =3.25), lack of continuity (\bar{x} =3.20), inadequate training (\bar{x} =3.17), and inadequate extension agent (

\bar{x} =3.10). People’s involvement can be enhanced with good leadership. Puhazhendhi and Jayaraman (1999) found that lack of effective leadership, and less/non-involvement of NGOs as negative factors that influence group participation. They also found increased rate of saving, regularity in attending meetings, and regular attendance as major contributing factors for good participation.

Table 3: Factors hindering farmers' participation in extension intervention programmes

S/No	Factors hindering participation	Very serious (4)	Serious (3)	Less serious (2)	Not serious (1)	Weighted sum	Weighted mean	Overall rating	Rank
1	Poor involvement of people at the conception stage	346 (57.7)	117 (19.5)	80 (13.3)	57 (9.5)	1926	3.25	Serious	1 st
2	Lack of programme continuity	311 (51.8)	127 (21.2)	133 (22.2)	29 (4.8)	1920	3.20	Serious	2 nd
3	Inadequate training	302 (50.3)	162 (27)	77 (12.8)	59 (9.8)	1907	3.17	Serious	3 rd
4	Extension agent factors (inadequacy etc)	285 (47.5)	154 (25.7)	101 (16.8)	60 (10)	1864	3.10	Serious	4 th
5	Extension agency factors	263 (43.8)	161 (26.8)	98 (16.3)	78 (13)	1809	3.02	Serious	5 th
6	Poverty associated problems	260 (43.3)	128 (21.3)	95 (15.8)	117 (19.5)	1731	2.89	Serious	6 th
7	Socio-psychological factors; and decision-making process	271 (45.2)	102 (17)	93 (15.5)	134 (22.3)	1710	2.85	Serious	7 th
8	Institutional factors (stakeholders e.g. input, market	248 (41.3)	127 (21.2)	91 (15.2)	134 (22.3)	1689	2.82	Serious	8 th
9	Participants' heterogeneity factors e.g. age, knowledge, level of education, status etc	242 (40.3)	124 (20.7)	104 (17.3)	130 (21.7)	1678	2.80	Serious	9 th
10	Low rate of annual saving	243 (40.5)	103 (17.2)	130 (21.7)	124 (20.7)	1665	2.78	Serious	10 th
11	Community factors e.g. power structure, leadership, economic level etc.	219 (36.5)	152 (25.3)	94 (15.7)	135 (22.5)	1655	2.76	Serious	11 th
12	Environmental factors	177 (29.5)	104 (17.3)	87 (14.5)	232 (38.7)	1426	2.38	Not serious	12 th
13	Non-involvement of NGO	184 (30.7)	64 (10.7)	48 (8)	304 (50.7)	1328	2.21	Not Serious	13 th
14	Irregularity in meeting	162 (27)	74 (12.3)	39 (6.5)	325 (54.2)	1169	1.95	Not serious	14 th
15	Irregular attendance by members	163 (27.2)	25 (4.2)	21 (3.5)	391 (65.2)	1160	1.93	Serious	15 th

Source: Field survey, 2009. *Figures in parenthesis are percentages

Relationship between socio-economic characteristics and level of participation by farmers

Results of inferential statistical analysis in Table 4 indicate that there was a positive and significant relationship between farmers' level of participation and education ($X^2=6.92$; $p<0.05$), membership of farmers' association ($X^2 =6.18$; $p<0.05$), age ($X^2=6.12$; $p<0.05$), farming experience ($X^2=5.64$; $p<0.05$), income ($X^2=4.61$; $p<0.05$), and benefits of association membership ($X^2 =3.41$; $p<0.05$) and secondary occupation ($X^2 =3.13$; $p<0.05$). This means that the above characteristics

influence farmers' ability and level of participation. Enhanced education, income, long years of experience and membership of farmers' association could have encouraged saving and a receptive attitude which could in turn encourage their participation. These findings conform with Olaniyi, Siyanbola and Eniola (2004) who found that age and education had significant relationship with level of participation. Also, Musa, Tafida and Gloria (2009) found land tenure, poverty, inadequate extension agents and poor inputs as serious constraints (in their respective order) to farmers' active participation in extension intervention programmes.

Table 4: Relationship between socio-economic characteristics and level of participation by farmers

S/N	Variable	X ²	df	Contingency	% level of significance	Decision
1	Age	6.12	2	0.32*	0.072	S
2	Gender	0.69	1	0.11	0.263	NS
3	Marital status	0.53	2	0.36	0.746	NS
4	Household size	0.95	2	0.16	0.825	NS
5	Education	6.92	1	0.93*	0.834	S
6	Farming enterprise	0.65	3	0.47	0.673	NS
7	Secondary occupation	3.13	4	0.54*	0.725	S
8	Farming experience	5.64	3	0.49*	0.362	S
9	Membership of farmers' association	6.18	3	0.51*	0.420	S
10	Income	4.61	4	0.56*	0.421	S
11	Farm size	2.01	2	0.31	0.572	NS
12	Benefits of association membership	3.41	2	0.32*	0.321	S

*Significance

CONCLUSION AND RECOMMENDATIONS

Farmers in the study area participate poorly in extension intervention programmes. Poor involvement of people at the conception stage, lack of continuity, inadequate training, inadequate extension agent, extension agency factors, poverty, socio-psychological factors, institutional factors, participants' heterogeneity factors (e.g. age, knowledge, level of education, status etc), low rate of annual savings, and community factors (e.g. power structure, economic level) were the major hindrance against their participation.

In view of these findings, a shift in the traditional supply-driven extension to a more participatory one becomes very necessary. Adult education which should emphasize the importance of participation should be encouraged. Cooperative attitude should also be inculcated in the farmers through trainings and experiences. These will no doubt ensure a high level of farmers' participation. This will ensure sustainability of extension programme and consequently guarantee the attainment of food security in Nigeria.

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