Agro-Science
Journal of Tropical Agriculture, Food, Environment and Extension
Volume 3, Number 1, January 2002 pp. 47 - 54
ISBN 1119-7455

CHANGES IN BEHAVIOUR AND SOCIAL STATUS AS PERCEIVED BY PARTICIPATING FARMERS IN AGRICULTURAL DEVELOPMENT PROJECTS IN ONDO AND ENUGU STATES, NIGERIA

A.R. Ajayi
Department of Agricultural Extension,
University of Nigeria, Nsukka.

ABSTRACT

The study analysed the changes in behaviour and social status of project-farmers before and after their involvement in the extension activities of the Ondo and Enugu States' Agricultural Development Projects/Programmes (ADPs). Data were collected through the use of structured interview schedule. Chi-Square statistic ($p < 0.05$) was used in analysing the data. The findings revealed that the two ADPs brought about significant changes in the knowledge, attitude, aspiration and social statuses of the project-farmers in Ondo and Enugu States. It was concluded that the success or failure of an ADP could be evaluated through the use of social and behavioural indicators.

Keywords: behaviour, social-status, perceived, participating-farmers, change

INTRODUCTION

Nigeria, like most African countries, has realized that viability in rural development depends on sustained growth in rural income and standard of living primarily from agriculture (Fadayomi, 1988). Hence, in 1974, Agricultural Development Projects (ADPs) were embarked upon (Mabawonku, 1986). In 1975, three area-based (enclave) ADPs were initiated as pilot projects (Aja, 1981). They were succeeded by six more enclave and four state-wide projects in the late seventies and early eighties. The Training and Visit (T & V) extension approach was practiced by these programmes. The concept of this approach was accepted in a reorganised and revitalised form (as against the conventional, un-organised and ineffective Ministry-operated Agricultural Extension System [AES]) and was adopted by all subsequently established state-wide ADPs. The T & V system in Nigeria has been evolving in various ADPs, especially, in its field operational strategies and emphasis/de-emphasis on particular components. The broad objective of the ADPs in Nigeria is to increase the production of adaptive research, an input delivery system, a rural infrastructural programme (rural feeder road, water supply, etc.) and an autonomous project management unit. The relative success of the first enclave projects encouraged the Nigerian government to accept the ADP system as the main strategy for promoting agricultural production at the small holder farmer level. The ADP system has thus been established on a state-wide basis in all the 30 states of the country including the Federal Capital Territory of Abuja (Oyebanji, 1994). Gradually, the Unified Agricultural Extension System (UAES) was introduced, whereby each Extension Agent (EA) was expected to deal with the transfer of technology in all agricultural sub-sectors. Unified Agricultural Extension System is an amalgamation of the Farming System Research (FSR) and the T&V extension to generate and disseminate location – specific agricultural technologies to farmers through a single field worker. Contact farmers and/or contact groups initially receive the technologies first-hand from the EAs. Other farmers are then expected to copy the innovations from the project farmers. Proven technologies are demonstrated to the farmers through the Small Plots Adoption Techniques (SPAT). In order to effectively back-up the re-organised extension service with relevant technologies, the Agricultural Research Institutes were re-organised and precise responsibility allocated to each (Unamma, 1989).

The former Ondo State Ekiti-Akoko ADP was established in 1981 as a pilot project (covering 5 out of 17 Local Government Areas (LGAs) in the then Ondo State) and at the end of a 5-year period it went state-wide in 1986/87, which suggested that its objectives had been met (FACU, 1987). On the other hand, the Enugu State ADP (formerly Anambra State ADP) was established in August 1985, as one of the second generation ADPs with an intensive training strategy based on training and visit (T&V) system to reach the rural clientele (Asiabaka, 1991).

The T & V is a system aimed at improving the effectiveness of extension work and extension agents. It is an attempt to reform and improve on the conventional extension system in many developing countries which have not made necessary impact on agricultural productivity (Fenley and Williams, 1984). It is an attractive means of increasing agricultural production and incomes of farmers. According to Asiabaka (1991), the ADP was conceived as a framework involving investment in agriculture so as to improve the standard of living of the resource-poor farmers. Its system was based on the

assumption that agricultural productivity can be enhanced with a combination of appropriate technology, effective extension, access to physical inputs, adequate market and other infrastructural facilities (Alabi, 1987).

ADPs motivate rural farmers towards better and improved planting, management, harvesting, processing, storage and marketing practices through a systematic extension system (Asiabaka, 1991). Agricultural extension is an educational process for bringing about desirable changes in peoples' behaviours (knowledge, attitude, skill and aspiration) which help to solve farm and home problems. The behavioural changes precede technical changes. Extension evaluation determines which of these behavioural – changes have been accomplished (Williams, 1981). Social status refers to the social standing or position of an individual in relation to others as ranked by society based on criteria considered of value to that society (Ekong, 1988).

After an average of about 10 years of participating in the project by the project-farmers, there is need to determine the changes in social statuses and behaviours of the project-farmers in the two states ADPs as a result of their participation in the extension activities of the agricultural development projects. The study was therefore designed specifically to determine the changes in the participating project farmers':

1. Agricultural information knowledge and participation in educative agricultural activities as a result of their participation in the ADPs;
2. 'Status' and 'form' of storage of farm produce as a result of their participation in the ADPs;
3. Main reasons for keeping livestock and poultry as a result of their participation in the ADPs;
4. Accessibility to modern farm inputs and their knowledge about the need to constantly search for additional farm technology as a result of their participation in the ADPs;
5. Knowledge about market days as a result of their participation in the ADPs; and
6. Standard of living as a result of their participation in the ADPs.

The analysis of the results of the extension activities of many ADPs in Nigeria by different authors (Alabi, 1987; Asiabaka, 1987; Asiabaka, 1991; Laogun, 1993 and Ajayi, 1996) shows that they have the desired significant performance indices in the areas of production and distribution of improved seeds / seedlings, crop yields, supply of agro-chemicals and spraying pumps, loan disbursement, provision of physical infrastructure and persuasion of the rural farmers to consider and adopt one or more improved practices. Through this study, it would further be revealed that ADPs could bring about changes in the learning behaviour (knowledge, attitude, skill, aspiration [KASA]) and social statuses of the rural farmers. The findings of the study would also give the public the privilege to know more about the extension activities of the ADPs.

MATERIALS AND METHOD

Ondo and Enugu States were involved in the study. Each of the two States was divided into three Agricultural Zones (by the researcher for the purpose of the study). From each of the three Agricultural Zones, two Agricultural Zones were selected through simple random sampling. In all, a total of four Agricultural Zones were involved in the study. The target population was about 20,480 project-farmers from the four Agricultural Zones. The list of the project-farmers in each Agricultural Zone was obtained from the zonal headquarters of the ADPs. From the list, a total of 15 project-farmers were randomly selected per zone, giving a sample size of 60 farmers (i.e. 30 project-farmers from Ondo State and 30 project-farmers from Enugu State). A well structured interview schedule (i.e. an interview schedule containing simple, clear, logical, less ambiguous, close and/or open ended questions/items) was developed and used. The interview schedule was divided into six sections; namely: project-farmers' sources of agricultural information and their participation in educative agricultural activities; storage status and form (storage status means whether or not, farm produce are stored before marketing; while form of storage refers to the extent to which the farm produce are processed {not processed, partiaily and fully processed} before marketing); major reasons for keeping livestock and poultry birds; degree of accessibility to modern farm inputs and knowledge about the need to constantly search for additional farm technology; familiarity with market days and family rating of standard of living by the project farmers. Appropriate questions were asked on the subject-matter under each of the sections and the response categories included "Yes" and "No" under two periods ("Before" and "After").

The interview schedule was validated, using content validity method. Content validity is a way of determining the relevance and suitability of the items/ questions included in a questionnaire/an interview schedule (Chuta, 1992). Following jury method as recommended by Crocker (1994) and used by Ajayi (1996), all items/questions contained in the draft interview schedule for the study were subjected to thorough examination and criticism by three Lecturers in the Department of Agricultural Extension University of Nigeria,

Table 1: Sources of Agricultural Information Used by Farmers Before and After Involvement in Agricultural Development Projects (ADPs)

Sources of Agricultural Information	Ondo State (n = 30)				Enugu State (n = 30)			
	Before (n)*	After (n)*	Total (n)*	χ^2- value	Before (n)*	After (n)*	Total (n)*	χ^2- value
Friends/Relations/ Neighbours	18	12	30		20	14	34	
Mass Media (Radio/TV/ Newspapers)	10	5	15	30.80 ($p<0.05$)	11	7	18	31.30 ($p<0.05$)
ADP Agents	5	15	20		5	15	20	
Co-operative Societies	9	5	14		9	5	14	
Total	42	37	79		45	41	86	
	* More than one source of information was used				* More than one source of information was used			

Table 2: Participation in Agricultural Extension Activities by Farmers Before and After Involvement in Agricultural Development Projects.

Participation in Agricultural Extension Activties	Ondo State (n = 30)				Enugu State (n = 30)			
	Before (n)*	After (n)*	Total (n)*	χ^2- value	Before (n)*	After (n)*	Total (n)*	χ^2- value
Farmer's Meetings	1	19	20	0.10 ($p<0.05$)	3	19	22	1.91 ($p<0.05$)
Demonstrations	2	30	32		1	30	31	
Total	3	49	52		4	49	53	
	* They participated in more than one educative agricultural activity				* They participated in more than one educative agricultural activity			

Nsukka, Enugu State. The relevance and suitability of each of the items as determined by the lecturers formed the base for the development of the final interview schedule which was used to collect data for the study. Data were collected by the researcher and 20 Village Extension Agents (VEWs) through personal interview.

To assess the behavioural and social effects of the projects on the respondents, the "Reflective Evidence to Appraise Programme (REAP) model was used. REAP model is a more simplified and complete approach to studying the effectiveness of agricultural extension programmes. It relies on "reflective" evidence of project results (Ogunbameru, 1986). The respondents were asked to reflect on the amount of change and payoff brought about through the projects. Hence, their behavioural and social statuses before and after becoming project-farmers were compared. Chi-Square Statistic ($P < 0.05$) was used in analysing the data. Yate's correction formula was applied.

RESULTS AND DISCUSSION

Project Farmers' Primary Sources of Agricultural Information

According to Table 1, in Ondo State, there was a significant difference ($\chi^2 = 30.80$; $P < 0.05$; $Df = 3$) between the primary sources of agricultural information to the project-farmers before and after their involvement in the Agricultural Development Projects (ADP). In Enugu State, a similar significant difference ($\chi^2 = 31.30$; $P < 0.05$; $Df = 3$) existed between the primary sources of agricultural information to the project-farmers before and after their involvement in the ADP. Before becoming project-farmers, a combination of friends, relations and neighbours formed the primary sources of agricultural information to the respondents from Ondo and Enugu States. However, on becoming project-farmers, ADP agents became the primary source of agricultural information to the two groups of respondents. The observed change in the primary source(s) of agricultural information is an indication of the positive effect of the extension activities of the two ADPs on the farmers. The capability of the farmer to continually manage his farm efficiently from year to year is often dependent on the collection of relevant information about production, marketing, weather and the general economic conditions of his environment (Igben, 1988).

Table 3: Status of Storage by Farmers Before and After Involvement in Agricultural Development Projects

Status of Storage	Ondo State (n = 30)				Enugu State (n = 30)			
	Before (n)	After (n)	Total (n)	χ^2- value	Before (n)	After (n)	Total (n)	χ^2- value
Stored before Sale	6	20	26		9	22	31	
Did not Store before Sale	24	10	34	34.40 ($p<0.05$)	21	8	29	14.80 ($p<0.05$)
Total	30	30	60		30	30	60	

Table 4: Storage Form Used by Farmers Before and After Involvement in Agricultural Development Projects

Form of Storage	Ondo State (n = 30)				Enugu State (n = 30)			
	Before (n)*	After (n)*	Total (n)*	χ^2- value	Before (n)*	After (n)*	Total (n)*	χ^2- value
Stored as Harvested	23	13	36		23	15	38	
Partially Processed before Storage	5	12	17	3.74 ($p<0.05$)	8	5	13	2.75 ($p<0.05$)
Fully Processed before Storage	5	8	13		6	10	16	
Total	33	33	66		37	30	67	
	* More than one form of storage was involved.				* More than one form of storage was involved.			

Farmers' Participation in Farmers' Meetings and Farm Demonstrations

Table 2 shows that in Ondo State, there was a significant difference ($\chi^2 = 0.10$; $P < 0.05$; $Df = 1$) between participation in farmers' meetings and farm demonstrations by the respondents before and after their involvement in the ADP. In Enugu State, a similar significant difference ($\chi^2 = 1.91$; $P < 0.05$; $Df = 1$) existed between participation in farmers' meetings and farm demonstrations by the respondents before and after their involvement in the ADP. Before becoming project-farmers, the respondents from Ondo and Enugu States participated very little in farmers' meetings and farm demonstrations. However, after becoming project-farmers, they participated very much in farmers' meetings and farm demonstration activities of the ADPs. It could be deduced from the above findings that the two projects facilitated active participation of the respondents in farmers' meetings and demonstrations. This was possible through the "Small Plot Adoption Technique (SPAT)" and probably through holding of regular meetings with the farmers by the EAs. SPAT is usually established on small portion of the farmer's farm where he could practically apply the knowledge gained with respect to specific practices and technologies. The aim of SPAT is to enable the farmer make constructive comparison between the recommended system, practices and technologies and their indigenous knowledge systems (Unamma, 1989).

Storage Status

Entries in Table 3 indicate that in Ondo State, there was a significant difference ($\chi^2 = 34.40$; $P < 0.05$; $Df = 1$) between the storage status of the respondents before and after becoming project-farmers. The table also shows that in Enugu State, there was a significant difference ($\chi^2 = 14.80$; $P < 0.05$; $Df = 1$) between the storage status of farm produce among the respondents before and after becoming project-farmers. Before becoming project-farmers, only a small proportion of the respondents from both states stored their farm produce before sale. However, as a result of the positive influence of the ADPs' extension activities, a greater proportion of the respondents from the two states started storing their farm produce before sale. The storage of farm produce in one form or another before sale is advantageous; it is even more profitable and economical to store commodity in a form different from that in which it was harvested (Igben, 1988).

Table 5: Major Reasons for keeping Livestock and Poultry Birds by Farmers Before and After Involvement in Agricultural Development Projects

Reasons for keeping Livestock and Poultry Birds	Ondo State (n = 30)				Enugu State (n = 30)			
	Before (n)*	After (n)*	Total (n)*	χ^2- value	Before (n)*	After (n)*	Total (n)*	χ^2- value
For Family Consumption	14	7	21		15	9	24	
As a Farm Business	5	12	17	17.52 ($p<0.05$)	5	13	18	8.11 ($p<0.05$)
For Sale at Period of need	16	9	25		19	13	32	
Total	35	28	63		39	35	74	
	* More than one major reason was given				* More than one major reason was given			

Table 6: The Degree of Accessibility of Modern Farm Inputs by Farmers before and After Involvement in Agricultural Development Projects

Degree of Accessibility	Ondo State (n = 30)				Enugu State (n = 30)			
	Before (n)	After (n)	Total (n)	χ^2- value	Before (n)	After (n)	Total (n)	χ^2- value
Not accessible	20	5	25	37.30 ($p<0.05$)	20	5	25	43.34 ($p<0.05$)
Fairly accessible	5	17	22		5	15	20	
Quite accessible	5	8	13		5	10	15	
Total	30	30	60		30	30	60	

Storage Form

Table 4 reveals that there was no significant difference ($\chi^2 = 3.74$; $P < 0.05$; $Df = 2$) between the storage form used by the respondents from Ondo State, before and after becoming project-farmers. On the part of the respondents from Enugu State, their storage form before and after becoming project-farmers significantly different ($\chi^2 = 2.75$; $P < 0.05$; $Df = 2$) from one another. Before and after becoming project-farmers, majority of the respondents from Ondo and Enugu States stored their farm produce as harvested and/or in a partially processed form, while only a few of them actually processed their farm produce fully before storage. The implication of these findings is that the extension activities of the Ondo and Enugu States' ADPs did not change the storage form or behaviour of the farmers. When farm produce is fully processed before storage, it tends to occupy less space and it stores longer than it would otherwise have stored if not processed (Igben, 1988).

Major Reasons for Keeping Livestock and Poultry Birds

According to Table 5, in Ondo State, there was a significant difference ($\chi^2 = 17.52$; $P < 0.05$; $Df = 2$) among the respondents' major reasons for keeping livestock and poultry birds before and after becoming project-farmers by the respondents. In Enugu State, a significant difference ($\chi^2 = 8.11$; $P < 0.05$; $Df = 2$) also existed among the respondents' major reasons for keeping livestock and poultry birds before and after becoming project-farmers by the respondents. Before becoming project-farmers, a greater proportion of the respondents from both States were keeping livestock and poultry birds primarily for family consumption and for sale at periods of need. On becoming project-farmers, majority of them raised livestock and poultry birds for farm business. The implication of these findings is that, as a result of the positive and direct influence of the extension activities of the ADPs on the project-farmers, their emphasis on raising livestock and poultry birds primarily for family consumption and for sale at period of need changed drastically to farm business.

Degree of Accessibility of Modern Farm Inputs

Entries in Table 6 show that there was a significant difference ($\chi^2 = 37.30$; $P < 0.05$; $Df = 2$) between the degree of accessibility to modern farm inputs before and after becoming project-farmers by the respondents from

Table 7: Knowledge about the Need to Constantly Search for Additional Agricultural Technology Before and After Involvement in Agricultural Development Projects

Knowledge about searching for Additional Agricultural Technology	Ondo State (n = 30)				Enugu State (n = 30)			
	Before (n)	After (n)	Total (n)	χ^2- value	Before (n)	After (n)	Total (n)	χ^2- value
Poor Knowledge	13	5	18		14	5	19	
Fair Knowledge	8	11	19	6.74	5	12	17	23.20
Adequate Knowledge	9	14	23	(p<0.05)	11	13	24	(p<0.05)
Total	30	30	60		30	30	60	

Table 8: Familiarity with Market Days by Farmers Before and After Involvement in Agricultural Development Projects.

Number of Market Days Familiar with	Ondo State (n = 30)				Enugu State (n = 30)			
	Before (n)	After (n)	Total (n)	χ^2- value	Before (n)	After (n)	Total (n)	χ^2- value
1 – 2	18	5	23	16.98 (p<0.05)	15	5	20	22.40 (p<0.05)
3 – 4	6	15	21		5	10	15	
5 – 6	6	10	16		10	15	25	
Total	30	30	60		30	30	60	

Ondo State. There was a similar significant difference (χ^2 = 43.34; P < 0.05; Df = 2) between the degree of accessibility to modern farm inputs before and after becoming project-farmers by the respondents from Enugu State. Before becoming project-farmers (both from Ondo and Enugu States), a greater proportion of the respondents had no access to modern farm inputs. The conclusion here is that, both the Ondo and Enugu States' ADPs greatly influenced the accessibility of the project-farmers to modern farm inputs such as improved planting materials, chemicals and machinery, etc.

Knowledge about the Need to Constantly Search for Additional Farm Technology

Table 7 indicates that there was a significant difference (χ^2 = 6.74; P < 0.05; Df = 2) between the knowledge about the need to constantly search for additional farm technology before and after becoming project-farmers by the respondents from Ondo State. In Enugu State, there was also a significant difference (χ^2 = 23.20; P < 0.05; Df = 2) between the knowledge about the need to constantly search for additional farm technology before and after becoming project-farmers by the respondents. Majority of the respondents from Ondo and Enugu States had poor knowledge about the need to constantly search for additional farm technology before becoming project-farmers. On becoming project-farmers, a greater proportion of them had adequate knowledge about the need to constantly search for additional technology. From the foregoing, it is possible to conclude that the two ADPs improved the knowledge of the project-farmers about the need to constantly search for additional farm technology.

Familiarity with Market Days

The contents of Table 8 indicate that a significant difference (χ^2 = 16.98; P < 0.05; Df = 2) existed between the familiarity with market days before and after becoming project-farmers by the respondents from Ondo State. On the part of the respondents from Enugu State, their familiarity with market days before and after becoming project-farmers was also significantly different (χ^2 = 22.40; P < 0.05; Df = 2) from one another. A greater percentage of the respondents from Ondo and Enugu States were familiar with just 1 – 2 market days before becoming project-farmers. However, on becoming project-farmers, majority of them became familiar with 3 – 6 market days. The implication of these findings is that the ADPs actually changed (improved) the knowledge/awareness of market days of the farmers and this

Table 9: Rating of Standard of Living by Farmers Before and After Involvement in Agricultural Development Projects

Perceived Standard of Living	Ondo State (n = 30)				Enugu State (n = 30)			
	Before (n)	After (n)	Total (n)	χ^2- value	Before (n)	After (n)	Total (n)	χ^2- value
Worse than others	12	5	17		7	5	12	
As Good as others	13	17	30	7.04 ($p<0.05$)	18	12	30	10.62 ($p<0.05$)
Better than others	2	4	6		2	6	8	
Do not know	3	4	7		3	7	10	
Total	30	30	60		30	30	60	

could go a long way in influencing positively, their knowledge/awareness of market prices, supplies and demand profile. The knowledge/awareness of these market indicators could make the farmers to become good managers who would always take the most appropriate decisions (Igben, 1988).

Family Rating of Standard of Living by the Project-Farmers

Entries in Table 9 show that there was no significant difference ($\chi^2 = 7.04$; $P < 0.05$; $Df = 3$) between the rating of standard of living before and after becoming project-farmers by the respondents from Ondo State. The Table however shows that there was a significant difference ($X^2 = 10.62$; $P < 0.05$; $Df = 3$) between the rating of standard of living before and after becoming project-farmers by the respondents from Enugu State. It could be deduced from these findings that only the respondents from Enugu State had a positive change in the perception of their standard of living after becoming project-farmers. This observable difference in the level of perception of the two states could be probably attributed to the differences in culture and value system.

CONCLUSION

Agricultural Development Projects (ADPs) in Nigeria are expected to bring about favourable changes in the behaviour and social life of the rural farmers. The findings of this study indicated that there was a significant change in the primary sources of agricultural information to the project-farmers from Ondo and Enugu States as a result of their involvement in the extension activities of the ADPs. The involvement of the project-farmers from Ondo and Enugu States in the extension activities of the ADPs also brought about a significant change in their storage status. A similar significant change in the major/primary reasons for keeping livestock and poultry birds by the project-farmers from Ondo and Enugu States due to their participation in the extension activities of the ADPs, was observed. Majority of the respondents from Ondo and Enugu States had significant positive change in their accessibility to modern farm inputs on becoming project-farmers. The findings further indicated that there was a significant difference between the knowledge about the need to constantly search for additional agricultural technology before and after becoming project-farmers by the respondents from Ondo and Enugu States. The involvement of the project-farmers from Ondo and Enugu States in the extension activities of the ADPs also improved their familiarity with market days. A greater proportion of the project-farmers from Enugu State had a positive change in the perception of their standard of living as a result of their involvement in the extension activities of the ADP. However, there was significant change between the storage form used before and after involvement in the extension activities of the ADPs by the project-farmers from Ondo and Enugu States.

From the foregoing, it is possible to conclude that the two projects brought about significant changes in the knowledge, attitude, aspiration and social status of the majority of the project-farmers in Ondo and Enugu States. The implication of these findings is that the success of any Agricultural Development Project could be assessed, using both social and behavioural indicators.

Acknowledgements

The financial and moral support of the Senate Research Grants Committee of the University of Nigeria, Nsukka, towards the successful completion of this research are gratefully acknowledged.

REFERENCES

Aja, O. (1981). Rural infrastructure and the effectiveness of farm input delivery system in the ADPs. A paper presented at *First National Workshop on Rural Infrastructure in Nigeria.* University of Ibadan, Nigeria; pp 3 – 18.

Ajayi, A.R. (1996). An evaluation of the socio-economic impact of the Ondo State Ekiti-Akoko ADP on the

rural farmers. Ph.D Thesis, Department of Agricultural Extension, University of Nigeria, Nsukka; pp 134 – 158.

Alabi, J.O. (1987). Evaluation of agricultural and rural development programmes in Nigeria. A Study of the REDA and ADP systems. Paper presented at *Seminar on Management Problems in Agriculture and Rural Development in Nigeria*. Obafemi Awolowo University; pp 4 – 8.

Asiabaka, C.C. (1987). The role of ADPs in agricultural transformation of Nigeria: A Study of the ADP. A paper presented at the *National Conference on being served by an EAs*; pp 1 – 12.

Asiabaka, C.C. (1991). The role of Imo State ADP in boosting food production. *The Nigerian Journal of Agricultural Extension*; **6 (1, 2)**: 47 - 51. NAERLS, ABU, Zaria, Nigeria.

Chuta, C.R. (1992). Comparative assessment of training needs for agricultural administrators in Imo and Borno States of Nigeria. Ph.D Thesis, University of Nigeria, Nsukka; pp 1 – 89.

Crocker, A.C. (1969). *Statistics for the teacher.* London, Buller and Tanner Ltd.

Ekong, E.E. (1988). The Nigerian rural women: Some considerations for development. *The Nigerian Journal of Agricultural Extension.* **3 (1, 2)**: 45 – 55.

Fadayomi, T.O. (1988). *Rural development and management in Nigeria.* NISER, Ibadan, Nigeria; pp 1 – 157.

Fenley, J.M. and Williams, S.K.T. (1984). Programme planning in extension work in S.K.T. Williams, J.M. Fenley and C.E. Williams (Eds.): *A Manual for Agricultural Extension Workers in Nigeria.* Department of Agricultural Extension and Rural Development, University of Ibadan, Ibadan, Oyo State, Nigeria; pp 96 – 111.

Igben, M.S. (1988). Farmer's capability profile in M.S. Igben (Ed): *The Nigerian farmer and agricultural institution: An assessment,* NISER, Ibadan, Nigeria; pp 67 – 92.

Kerlinger, F.N. (1973). *Foundation of behaviour research.* New York: Holt, Rinchart and Winston Inc.

Laogun, E.A. (1993). Evaluation of University-based extension system: A case study of Isoya Rural Development Project. *Nigerian Journal of Rural Extension and Development*; **1 (2, 3)**: 31 – 38.

Mabawonku, A.F. (1986). Economic evaluation of the Anambra/Imo (ANIMO) rice project in Nigeria. *Agricultural Administration and Extension Journal,* **22 (3)**: 149 – 160.

Ogunbameru, B.O. (1986). Application of "REAP" model in evaluating extension programmes: Focus on Borno farm mechanisation training programme. *The Nigerian Journal of Agricultural Science,* **4 (1)**: 2 – 9.

Oyebanji, O.O. (1994). The development of agricultural extension in Nigeria in Judith N. Wolf (Ed.) *Agric. Ext. in Africa.* CTA, The Netherlands, **2**, 235 – 250.

Ugbomeh, G.M.M. (1994). An evaluation of YFC scheme in Edo and Delta States, Nigeria. Ph.D Thesis, University of Nigeria, Nsukka; pp 1 – 128.

Unamma, R.P. (1989). The role of research and extension on the sustainability of productivity of the ADPs in the proceedings of the 3rd Annual Farming Systems Research and Extension; Workshop in Southeastern Nigeria, Umudike; pp 17 – 23.

Williams, S.K.T. (1981). Structure and organisation of agricultural extension services in Nigeria: An invited paper presented at the workshop on utilization of agricultural research results in Nigeria; Institute of Strategic Studies, Bukuru, Nigeria, pp 1 – 1.