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Research Paper

Funding of Agricultural Research and Extension: A veritable Tool for Agricultural and Rural Transformation in Nigeria. A case study of Rubber Farmers in Edo State

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The concept of rural development and transformation embraced by most countries connotes a process through which rural poverty is alleviated by sustained increases in agricultural productivity, brought about by extension and research. The study examines the sourcing, funding and distribution of funds to extension and research workers. Data collected from 135 rubber farmers were analyzed using descriptive statistic and the results revealed that 61.8% of the respondents fell within the age range of 41-50 years bracket which form the cream of productive work force. 27.9% were into research, 22.1% had teaching as an extra occupation and there was virtually no respondent that do not have one form of training or the other, either in agriculture or agro- related fields. 37.8% of the funds got to the farmers through farmers' family meeting and closely followed by 20% the respondents getting their funds through farmers' co-operatives societies .Corruption, lack of co-ordination, inefficient monitoring and evaluation of extension and research activities are key areas identified as major constraint to efficient funding, with34.8% and 24.4% of the respondent in agreement.

Key words: Research, Extension, Funding, Transformation, Rural, Descriptive Statistics.

INTRODUCTION

Agricultural funding refers to ways of capital formation available to farmers for the acquisition of more factors of production (land, labour and capital) to increase level of production and efficiency (Nnoka and Ndupu, 2002). It also refers to financial management of the farm. In this context, it refers to capital formation available to extension and research for generation of technology and its dissemination to farmers to enhance efficiency at these three levels in order to increase production. Research for development in agriculture and extension services has been a strong driving force for meeting food supply around the world (Beintema and Stads, 2008). Many reviews have examined the advancements in agricultural productivity during the past century and have demonstrated the value of investments channeled through research. Even from the very early years of modern agriculture, the challenges of increasing global populations with limited land was met as a direct result of strides in agricultural research, development, and extension (Waite, 1915; James, 1996).

Agricultural Extension is defined as an informal education service directed at training both young and adult farmers to enable them adopts new and improved input and techniques in farming. It is also described as a means of disseminating information on new technologies and improved methods of farming from research to the farmers with aim of improving and increasing farmers' production, income and livelihoods. This is aimed at making the farmers achieve higher production levels, improved marketing, processing, storage techniques

and better quality of live.

Anderson, (2007) defines agricultural extension and advisory services as the entire set of organizations that support and facilitate people engaged in agricultural production to solve problems and to obtain information, skills and technologies to improve their livelihoods. Agriculture research refers to a careful and in-depth investigation into something in order to generate new technology for general improvement of agriculture and quality of life of the people.

Harmonious relationship exists between extension, agricultural research and the farmers such that agricultural and rural transformations are guaranteed. Normally, research generates new technologies aimed at effecting improvement on the farm situation and extension transfer these technologies to the farmers who in-turn utilize these technologies for the benefit of mankind.The conventional Research- Extension Farmers' In-Input Linkage System (REFILS) made operational by our National Agricultural policy and for which substantial amount of the Gross National Product (GNP) as well as huge amount of Dollars from foreign countries and foreign agencies is being spent to enhance agricultural and rural transformation in Nigeria (Feder et al., 2004). The role and potentialities of extension and research on agricultural economy of Nigeria are so enormous to justify substantial investment in this sector, (Purcell and Anderson, 1997) assessed the impact of World Bank support to the development of national research and extension systems in the 1980s and 1990s and the study concludes that, despite serious limitations in the systems receiving support, there have been significant positive effects of World Bank interventions. However, this is also based on a review of project completion reports rather than impact evaluative evidence.

The annual investment on agricultural extension and research in Nigeria is quite enormous that one would rationally expect corresponding measure of returns commensurate to the investment resources. In Nigeria, research and extension have proved to be veritable tools for agricultural and rural development although their contributions to the GNP have not actually reflected their relevance and indispensability in the national economy. However research and extension are instrumental to Nigerian agricultural development, nevertheless, it must be acknowledged that the process of technology generation through research and release to farmers posed a difficult challenge to the Government mostly because of the intensive capital demand on the funding sources. Part of the national policy for agricultural development in Nigeria is that a given proportion of the GNP/national revenue should be assigned to extension and research and such percentage reviewed from time to time (Olayide, 1981). To this effect, Government has been obliged to commit annually certain budgetary allocation to research and extension. These annual allocation seemed not to have met the basic financial requirement to operate a viable extension and research systems in the country. This situation might have attracted the concern and interest of some friendly countries and foreign aid agencies whose financial assistance have been felt in the area of financing national agricultural research and extension projects in the past decade. For instance, the World Bank by its loan championed and financed the training and visit (T and V) extension system through the Agricultural Development Program (ADP) as a strategy for achieving agricultural and rural development in Nigeria. It provided 70 percent of the counterpart funding in the ten-year program (1985-1995).

The era witnessed very dynamic and efficient extension services as long as the loan lasted. Even though the Federal and State government did not keep their stipulated 20 percent and 10 percent respective counterpart funding for the same programme, the effect was very minimal as the bank loan provided enough financial support to carry out agricultural extension and research projects (Beintema and Stads, 2008). The end of the loan scheme almost witnessed extension system in the former thirty state of the federation grinded to a halt. In what seemed like a strategic come back, the world Bank in 1994 through the loan took the turn of facilitating agricultural research system in Nigeria. Through the bank loan and the support of the Federal Government, a 5 years National Agricultural Research Project (NARP) was established to finance the Nationally Co-ordinated Research Program (NCRP) .The program involved all the National Research Institutes (NARIs) as well as several universities in the country. The research institutes and these universities were thrown into beehives of research activities as NARP provided funds for both capital and recurrent expenditures on research projects. New research and laboratories were erected and old ones refurbished, tractors and farms implements were supplied, mobility's easily provided for travelling officers as well as their per diems. Although it seems to have exhausted its gestation period, its revamping impacts on the NARIs in particular and agricultural research and extension system in Nigeria will remain for a longer time.

The food and Agricultural Organization (FAO) has similarly provided financial support to agricultural development in Nigeria. The FAO through its fund, assisted in the following:

1) Generation and transfer of more gender specific technologies.
2) Creating awareness of the need to expose the rural women to technological information.
3) Establishment of formal and informal training program for extension personnel.
4) Development of agricultural extension policies and program.
5) Strengthening of extension, research and farmers linkage.

6) Analysis of constraints to the adoption of new technologies (FAO,1996).

In the same spirit other international financial institutions like International Fund for science (IFS), Overseas Development Agencies (ODA), International Fund for Agricultural Development (IFAD), as well as some bilateral and multilateral aid donors over the last decade have continued to facilitate agricultural and rural development in Nigeria by funding some specific agricultural extension and research projects. Presently Federal Government of Nigeria has come up with some program and intervention on funding and general development of agricultural sector. One of the most recent is the national accelerated industrial crop production program (NAICPP). This is aimed at promoting the production of crops like cocoa, cotton among others. In pursuance of this intervention program on agriculture and rural transformation, Federal Government in January, 2014 released 10 billion naira as bread fund to cassava growers association (NCGA) an umbrella body of cassava growers in Nigeria for cassava bread production (Nigeria Guardian 28 December, 2014). This study therefore seeks to investigate funding of Agricultural Research and Extension as a veritable tool for agricultural and rural transformation in Nigeria.

METHODOLOGY

Edo is an inland state in southern Nigeria. Its capital is Benin City. It is bounded in the north and east by Kogi State, in the south by Delta State and in the west by Ondo State, Edo State, Nigeria lies between longitudes 64'E and 643' E and latitude 50 44' N and 7 34'N. Edo State has a tropical climate characterised by two distinct seasons: wet and dry seasons.

The temperature ranges between 25 to 28°C. The main crop grown in Edo State are rubber, oil palm, cocoa, yam, cassava, maize, rice plantain, sugar cane, cashew, groundnut, soya beans, tomatoes, cotton, and tobacco, fruit crops (pineapples, coconut, oranges, avocados) and vegetables (*Osaghae, 1998).* The study was carried out in Ikpoba Okha local Government Area (L.G.A) of Edo State. A multi stage random sampling techniques was used to select respondents for the study. The first stage involved a purposive selection of Ikpoba-Okha local Government Area based on the population of the rubber farmers in the LGA. The second stage involved the purposive selection of five rubber growing communities, which include Obaetin, Uhie-1, Uhie-2, Orogho, and Iyanomo community. The last stage was a simple random selection of twenty farmers from each of the communities, except Obaetin and Iyanomo that had 25 and 50 selected farmer respectively because of their large population of rubber farmers. Structured questionnaire was used to obtain information on the primary data from the 135 rubber farmers and the data subjected to descriptive statistics such as frequency count and percentages.

RESULTS AND DISCUSSION

The socio-economic profile of the respondents as presented in Table 1 showed, 61.8% of the respondents fell within the age range of 41-50 years bracket which form the cream of productive work force. The dominant family size was 77.9% which has a range of 1-5 family members and it is a reflection of the availability of family labor force available to the household for agricultural activities.

Table 1 . Socio economic characteristics of respondents.

Variable	Frequency	Percentage
Gender		
Male	96	70.6
Female	39	28.7
Marital Status		
Married	133	97.8
Single	2	1.5
Educational Qualification		
HND	25	18.4
BSc	40	29.4
MSc	51	37.5
PhD	19	14.0
Age		
30-40	22	16.2
41-50	84	
>50	27	61.8
Family Size		
1-5	106	77.9
6-10	26	19.1
Farming Experience (yrs)		
1-10	54	39.7
11-20	52	
21-30	9	38.2
31-40	1	6.6
Extra Occupation		
Trading	8	5.9
Biking Riding	1	0.7
Teaching	30	22.1
Research /Extension	38	27.9
Office Work	2	1.5
Farming	39	28.7
Manufacturing	3	2.2
NIL	13	9.6

Source:Field Survey, 2015.

The male dominance in agriculture was reflected by 70.6% of the respondent while 97.8% of the respondent was married. Most of the respondents had one form of

Table 2. Distribution of respondent based on training.

Variables	Frequency	Percentage
Extension	33	24.3
Agric. Education	10	7.4
Breeding/ Botany	20	14.7
Renewable Resources MGT.	9	6.6
Agric. Economics	15	11
Environmental Studies	1	.7
Trading	1	.7
Soil Science	10	7.4
Engineering	12	8.8
Agronomy/Entomology	19	14.0
Vet. Science	5	3.7

Source:Field Survey, 2015.

Table 3.Sources of financial assistance.

Variable	Frequency	Percentage
IFAD/IMF/IFS	69	51.1
FADAMA Projects	52	38.5
ETF	6	4.4
R-BOX	5	3.7
Erosion Control Measures	3	2.2

Source.Field Survey, 2015.

Table 4. Factor that attracted funding agencies for extension /research.

Variables	Frequency	Percentages
Good Living Standard in Nigeria	25	18.5
Inadequate Budgetary Allocation For Agric. Extension /Research.	77	57.0
Proper Funding of Extension and Research	25	18.5
None of the above	8	5.9

Source:-Field Survey, 2015.

education or the other, and 38.2% of them were well experienced in farming with a range of 11-20 years of experience. Majority of the farmers had extra occupation, 27.9% were into research, and 22.1% had teaching as an extra occupation.

The analysis reveals that farmers with training in agricultural Extension had the highest frequency with a percentage of 24.3%, while the Vet. Scientist had the lowest with a percentage of 3.7%. Nevertheless, there was virtually no respondent that do not have one form of training or the other, either in agriculture or agro- related fields, as shown in (Table 2).

Table 3, indicates that 51.1% of agricultural funds came through IFAD/IMF/IFS sources and this was closely followed by Fadama projects with 38.5%. This is a clear indication that all the funds were geared towards transformation of agricultural and rural development. The main factor that attracted funding agencies was mainly the inadequacy of budgetary allocation for agricultural extension and research (Table 4). This was buttressed by majority (57%) of the respondents and with a frequency of 77. The donor agencies had discovered the inadequacy in the budgetary allocation for agricultural Extension and Research, and they decided to intervene and this had brought about the transformation and development of agriculture in the rural areas. 37.8% of the funds get to the farmers through farmers family meeting, this could be perhaps due to smartness and level of good public relations of recognized members of the families and this was closely followed by 32.6 percent of the respondents getting their funds through farmers' next of kin (Table 5).

Assessment of the funds comes in two major ways as indicated by the respondents, 49.6% of the respondents' access their funds through the state and Federal government, after paying their counterpart funds of 10-20% draw down, and this was closely followed by 38.5% of the respondent who indicated a direct payment from

Table 5.Sources of funds to farmers.

Variables	Frequency	Percentage
Through Farmers Family Meetings	51	37.8
Through Farmers next of kin	44	32.6
Through Farmers CO-Operating Societies	27	20.0
Through Farmers Individual Efforts	13	9.6

Source:-Field Survey, 2015.

Table 6. Possibilities of accessing funds for agricultural research and extension.

Variable	Frequency	Percentages
By Direct Payment to the Farmers	52	38.5
By State and Federal Government After Paying Their Counterpart	67	49.6
Funds of 10-20 Percent Draw Down.	8	5.9
Collection of Cash Directly from the Donor by the Research Institute.		

Source.Field Survey, 2015.

Table 7. Constraints that could affect effective funding of agricultural extension and research in rural areas.

Variable	Frequency	Percentage
Corruption	47	34.8
Lack of Co-Ordination, Monitoring and Evaluation of Research Activities	33	24.4
Reckless Mismanagement of Available Funds for Extension and Research	10	7.4
Failure to Pay Counterpart Fund by Government.	8	5.9
Capacity Building of Extension and Research.	58	43.0
Proper and Regular Funding.	50	37.0
Funds not Released on Time.	5	3.7

Source.Field Survey, 2015.

the funding agencies (Table 6).

The funds that are released promptly goes a long way to help in capacity building of extension and research workers as clearly indicated by 43.0% of the respondents and also buttressed by Patel, (1985) . Corruption and lack of co-ordination, inefficient monitoring and evaluation of extension and research activities are key areas identified as major constraints to efficient funding, with 34.8% and 24.4% of the respondents in agreement as indicated in the (Table 7).

In conclusion, agricultural funds for research and extension system concepts will have the potential to positively impact upon the livelihood of rural farmers; more funding agencies should be encouraged by our state and federal government to finance agriculture as a diversification of our economy. Farmers co-operating society should be encouraged, because of their high capacity to source for funds for the farmers.

In order to eliminate the issues surrounding effective use of funds met for extension and research, proper co-ordination, monitoring and evaluation should be carried out on regular basis, and also counterpart funds should be paid as at when due by the state and federal government to encourage the donors to release funds to the farmers as at when due.

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