

A COMPARATIVE ANALYSIS OF SCIENTISTS LINKAGE ACTIVITIES IN UNIVERSITY AND NON-UNIVERSITY BASED AQUACULTURAL RESEARCH INSTITUTES IN NIGERIA

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This study investigated and compared the linkage activities of 75 scientists from both universities based and non-university based aquacultural research institutes. The study showed that scientists from both universities based and non-university based aquacultural research institutes were male dominated, 70% and 97%. University based scientists had high Ph.D, studying for higher degrees and job tenure of ten years (56.7%, and 73.3%). Communication method mostly used by university based scientists was seminar 23%, while non-university based scientists used Research Extension Farmer Input Linkage (REFIL) (97.7%) and personal contact (86.7%). The paper suggests that efforts of government should be geared towards activities that may promote linkage activities of both categories of scientists.

Keywords: Research, linkage, communication, fisheries-institutions, aquaculture

INTRODUCTION

In Nigeria, the greatest challenge since independence is to produce enough protein intakes for rapidly increasing population. The belief of many people is that it lies in the hand of agricultural scientists who are expected to generate technology that will transform national agriculture. The attainment of independence gave rise to the establishment of many research institutes. These were initially semi-autonomous and were each governed by a board and co-financed by the federal and respective regional governments. Oyedokun *et al.* (2002) were of the opinion that since 1973 the Federal government of Nigeria alone took the financial responsibility of agricultural research institutes and its management in order to bring about linkage between researchers and farmers that are the end users. The concept of linkage implies the communication and working relationship established between two or more organizations pursuing commonly shared objectives in order to have regular contact and improved productivity (Agbamu, 2000). The impact of agricultural research in generating research findings influences the effective performance of the agricultural sector. Agricultural technology generation in Nigeria lies with university based and non-university based scientists, while its linkage with the farmers is believed as the responsibility of the extension agents. However, both categories of

scientists also link up with the farmers but through different techniques. Specifically, the objective of the paper, therefore, was to determine scientists linkage activities in university and non-university based aquacultural research institutes in Nigeria.

MATERIALS AND METHODS

Aquaculture scientists in the two national fisheries research institutes in Nigeria and three universities that offer fisheries courses were the target population for the study. These were the Nigeria Institute of Oceanography and Marine Research (NIOMR) with 9 scientists, Nigeria Institute of Fresh Water Fisheries Research (NIFFR) had 45, University of Ibadan (U.I.) with 19, University of Lagos (UNILAG) with 6 while Lagos State University (LASU) comprised of 16 which made up a total of 99 scientists as the population size. A sample of 75 scientists was drawn randomly which represented 76% of the population. A structured questionnaire was administered to each of the university and non-university based scientists to elicit information on the communication methods used to link fish farmers. The collected data were analyzed using the frequency distribution and percentages for descriptive analysis.

RESULTS AND DISCUSSION

Scientists demographic characteristics: As shown in Table 1, most of the university scientists were male (70.0 %), married (93.3%) and 40% were between 31 and 40 years age. The table also indicates that 56.7% scientists had doctoral degree while 73.3 percent had between 1 and 10 years work experience. As for non-university based scientists, most were also male (97.8%) and married (77.7%) with 53.3% between 31 and 40 years of age. Moreover, 31.9% were with doctoral degree and 70.7% had 1-10 years service experience.

Most of the university and non-university based scientists were male (86.7%) as shown in Table 1. This agrees with earlier findings of Ogungbaigbe (2004). This trend means that males offer more aquacultural courses or attend training courses in aquaculture. The predominance of male could, however, have advantages in staff deployment situations. Deployment of scientists especially women to the sub-stations when necessary may be obstructed by complaints of threats to the scientist's family life because of separation (Oyedokun, 2000).

About 45 percent scientists were between 31 and 40 years of age; the average age of scientists was low. Angba (2000) reported high percentage of scientists below 50 years of age. The results suggest that a large proportion of researchers was young and in active age.

The data also indicates that 84 percent were married while about 11 percent were single. Oladele (1999) indicated 72 percent as number of married researchers which was equally high. This, therefore, means that majority of researchers can be assigned position of responsibility and may not be frequently posted around without adverse effects on their families.

There is a difference between university and non-university based scientists who had doctoral degree. Oyedokun (2000) reported that universities in Nigeria have higher number of qualified researchers than the agricultural research Institutes. Institutes with few post-graduate scientists might have to commit a lot of resources to manpower development. Researcher ability and analytical skills may be low; however, 42.2% are currently studying for higher degrees.

Majority of the researchers have worked for maximum of ten years (70.7%). Ogungbaigbe (2004) reported that a relatively inexperienced institution is one with researchers having less than five years of work experience. Long years of service may, however, account for conservative practices in administrative procedures by older researchers.

Communication methods used by university based scientists to contact fish farmers: Table 2 shows that university based scientists contact fish farmers mostly through seminars (23%), consultancy (20%), direct contact (20%) and least through workshops

Table 1. Scientist's demographic characteristics.

Variables		University based scientists	Non-university based scientists	Total
Gender	Male	21 (70.0)	44 (97.8)	65 (86.7)
	Female	9(30.0)	1 (2.2)	10(13.3)
Age	Less than 30	-	5 (11.11)	5 (6.7)
	31-40	10(33.3)	24 (53.3)	34 (45.3)
	41-50	12(40.0)	9 (20.3)	21 (28.0)
	Above 50	8(26.0)	7 (15.6)	15 (20.0)
Marital status	Single	1(3.3)	7 (15.6)	8 (10.7)
	Married	28(93.3)	35 (77.7)	63 (84.0)
	Divorced	1(3.3)	3. (6.7)	4 (5.3)
Educational level	B.Sc.	2(9.9)	18(39.9)	20 (24.7)
	M.Sc.	10(33.3)	17 (37.8)	27 (36.0)
	M.Phil.	1(3.3)	4 (8.9)	5 (6.7)
	Ph.D.	17(56.7)	6 (13.3)	23 (31.9)
Studying for higher degree	Yes	22(73.3)	19 (42.2)	41 (54.7)
	No	7(23.3)	23 (51.1)	30 (40.0)
	No response	1(3.3)	3 (6.7)	4 (5.3)
Job tenure	1-10 years	22(73.3)	31 (68.9)	53 (70.7)
	11-20 years	4(13.3)	6 (13.3)	10 (13.3)
	Above 50	4(13.3)	8 (17.8)	12 (16.0)

*Figures are number and percentage.

(7%). Communication can be quite intensive in closely linked groups when the user can discuss questions with others, particularly with more knowledgeable users, information can be quickly exchanged to overcome difficulties in using the technology (Shih and Venkatesh, 2004).

Table 2. Communication methods used by university based scientists to contact fish farmers.

Communication methods	Frequency (f)	Percent (%)
Seminars	7	23.3
Workshops	2	6.7
Agricultural shows	5	16.7
Consultancy	6	20.0
Direct contact	6	20.0

Communication methods used by non-university based scientists to contact fish farmers: Research Extension Farmer Input Linkage (REFIL) (97.7%) and personal contact (86.7%) were the most popular methods of communication as indicated in Table 3. Official calls (95.6%) and personal contacts (86.7%) were also used frequently, except subject specialist who had 46.7 percent score as communication method. Oladele (1999) also reported high percentage for demonstration while Rhonda (2006) found that workshop in conjunction with field days was significant.

Table 3. Communication methods used by non-university based scientists to contact fish farmers.

Communication methods	Frequency (f)	Percent (%)
Personal contact	39	86.7
REFIL	44	97.7
Demonstration	35	77.7
Extension guides	35	77.8
Official calls	43	85.6

CONCLUSION AND RECOMMENDATIONS

It is concluded that both university and non-university based scientists had direct contact (20.0%) and personal contact (86.7%), respectively, as the only similar method of communication with the fish farmers. Linkage through various communication methods used by the two categories of scientists differs because the organizational structure of non-university based institutes is mandatory extension activities and work as a team. It is, therefore, recommended that non-university based scientists should be encouraged for higher studies to acquire advanced knowledge where as university based scientists should collaborate with

extension agents in Agricultural Development Projects in various States for effective and wider communication with fish farmers.

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