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Original Research Article

Evaluation of Effectiviness of University Extension Delivery Services: A Case Study of Michael Okpara University of Agriculture Extension Centre, Umudike, Abia State, Nigeria

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Abstract: The study was carried out to evaluate the effectiveness of extension delivery service at Michael Okpara University of Agriculture, Umudike Extension Centre (MEC) delivery service in Abia State, Nigeria. Multi-stage sampling technique was used to select the sample for the study. In the first stage, three Agricultural zones of the State participating in MEC activities were selected. In the second stage, one local government out of three in each zone participating in MEC activities was purposively selected giving a total number of three local governments. In the third stage, three groups of farmers from each local governments participating in MEC activities were purposively selected giving a total number of 9 MEC farmers groups. Twenty participants from each group were randomly selected giving total of 180 participants. Also, five MEC staff were selected. Hence, the total sample size for the study included the 180 MEC participants and five MEC staff. Structured questionnaire was used to elicit information for the study. Data collected were analyzed using descriptive and inferential statistics, such as frequency distribution, percentages, mean for descriptive statistics, while the inferential statistic used was correlation and regression analysis. The result in table 1 showed that, MEC was effective in staff visits with a mean score of 2.6, and field days with a mean score of 2.6, field meetings with a mean score of 2.4, followed by supervision with a mean score of 2.4, while it was not effective in method demonstration with a mean score of 2.3, result demonstration with a mean score of 2.3, method/result demonstration with a mean score of 2.2, research extension linkage with a mean score of 2.1 and regularity of farmer training with a mean score of 2.1. The grand mean of effectiveness in technology dissemination was 2.30, which indicated ineffectiveness. The result in Table 2 revealed that, inadequate funding and inadequate logistics were the major factors limiting MEC technology dissemination with the grand mean of 2.5. The sample mean was 2.6853, while the population mean was 2.8948. The value of the Z – calculated (0.0054) was less than the value of the Z – tabulated (1.96). The study, therefore, accepted the null hypothesis that, there is no significant difference in the farmers' rating of MEC effectiveness. The study concluded that MEC is ineffective but would be effective if all these major factors limiting its effectiveness could be addressed by the university authority. The study recommended that the university authority should provide adequate fund, adequate logistics, and motivate their staff to enhance effective extension delivery services.

Keywords: Evaluation, delivery, effectiveness and extension, delivery.

INTRODUCTION

Evaluation is the process that enables one to judge or determine whether there are changes in behavior and whether those changes reflect stated objectives. It measures the extent to which desired objectives have been achieved (Agbarevo and Obinne, 2010). Effectiveness emphasizes what extension personnel accomplish in terms of the activities it has scheduled for itself to undertake as well as how resources, such as capital, manpower, goods and services, training and technologies needed for implementation of the programme have been used (Amalu, 2008). Extension service is concerned with conscious efforts to help farmer develop sound and rational attitude and behaviours. University based extension in Nigeria is the extension service rendered by the universities in Nigeria. Agricultural extension is crucial to agricultural development which is cardinal to

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the Millennium Development Goals (MDGs).Effective extension service is of paramount importance to the development of agriculture (Francis, 2006). The basic constituents of an agriculture extension system are set of technical recommendations ("the message"), and the means to deliver them ("the medium").

An effective agricultural extension is seen as one of the major catalysts needed to effect agricultural modernization. Extension makes possible not just the transfer of technology but more so, the mainstreaming of farmers into process of helping them make their own decisions. Extension services can range from the effective transfer of technology to the building up of strong rural organizations, which can exert influence over the future research and policy agenda, and also take and enforce collective decisions over natural management (Agbarevo and Obinne 2008). When an extension delivery is effective, it changes the life of farmers and the production capacity. Farmers regardless of their resource and socioeconomic status would adopt new technologies and modify resources used when they consider the change relevant to their circumstances (World Bank, 2005). Michael Okpara University of Agriculture Extension Centre was established in 2007 by Michael Okpara University of Agriculture, Umudike to actualize the goal of the University as a catalyst in rural development. The philosophy of MEC is that the majority of our farmers are absolutely poor. Alleviation of poverty, therefore, cannot be achieved by the dissemination of technologies to them alone. Other aspects of their socio-economic lives like health, education, women and youth empowerment must also be improved upon through external extension services (MOUAU Extension Centre, 2007). Michael Okpara Extension Centre (MEC) broad mandate is to ensure that farmers and their households receive relevant information that would increase their production capacity, improve their well being, and lift them out of the poverty trap. Although previous work had been done on farm situation and needs analysis of university selected communities in Abia State, Nigeria (Kanu, 2013). It did not evaluate the effectiveness of extension delivery by MEC, it is expected that a lot of changes may have taken place over the past 5 years since the study was carried out. Moreover, MEC has expanded its activities and areas covered. However, it is expected that a lot of the objectives relative to its mandate would have been achieved. It is in this regard, that the study was conceived. The objective of this study is to ascertain the effectiveness of MEC in extension delivery services. The study therefore, hypothesized that, there is no significant difference in farmers rating of MEC effectiveness in the study area.

METHODOLOGY

The study was conducted in Abia State. The state has three Agricultural Zones with 38 extension blocks and 27 circles (ADP, 2004). It has a population of 2,833,999 made up of 1,234,193 males, 1,599,806 females, and a population density of about 578 persons per square kilometer (NPC, 2007). In the first stage, three Agricultural zones of the State participating in MEC activities were selected. In the second stage, one local government out of three in each zone participating in MEC activities were purposively selected giving a total number of three local governments. In the third stage, three groups of farmers from each local governments participating in MEC activities were purposively selected giving a total number of 9 MEC farmers groups. Twenty participants from each group were randomly selected giving total of 180 participants. Also five MEC staff were selected. Hence, the total sample size for the study included the 180 MEC participants and five MEC staff. Structured questionnaires were used to elicit information for the study. Data were analyzed using descriptive and inferential statistics such as frequency distribution, percentages, mean for descriptive statistics while Z - test statistic used as inferential. The effectiveness of technology dissemination was determine by the regularity of activities thus very effective =4, moderately effective =3, less effective =2, not effective=1.The value assigned to the regularity of MEC technology dissemination were calculated thus 1+2+3+4 =10/4 =2.5. Any mean ≥ 2.5 was rated effective, while any < = 2.5 was not effective. On the factors limiting extension effectiveness of MEC, a 4 point rating scale was used thus 4= high extent, 3= moderate extent, 2= little extent, 1= no limitation. The value assigned to the limiting factors of MEC extension effectiveness was calculated thus 1+2+3+4= 10/4. Therefore a mean score that was ≥ 2.5 was used as high limiting factor, while a mean score that was < 2.5= no limiting factor. The Z-test to determine the significance of difference between the sample and population mean is given by the formula:

$$Z = \frac{\overline{X} - \mu}{\frac{\sigma}{\sqrt{n-1}}}$$ where:

$\overline{X}$ = Sample Mean
μ = Population mean
σ = Standard deviation
n = Sample size

RESULTS AND DISCUSSION

Effectiveness of MEC in technology dissemination is presented in table 1. The result showed that, MEC was effective in staff visits with a mean score of 2.6, and field days with a mean score of 2.6, field meetings with a mean score of 2.4, followed by supervision with a mean score of 2.4, while MEC was not effective in method demonstration with a mean score of 2.3, result demonstration with a mean score of 2.3, method/result demonstration with a mean score of 2.2, research extension linkage with a mean score of 2.1, and regularity of farmers training with a mean score of 2.1. However, the findings of this study is corroborated by the findings of Agbarevo (2013), which

reported that extension delivery was poor in the following areas: research-extension-farmer linkage through On-Farm Adaptive Research and farmer training programmes. Furthermore, the findings of the study noted that poor funding, poor motivation of staff, inadequate logistics etc, were largely responsible for the ineffectiveness of MEC in technology dissemination. The grand mean of 2.3 shows that MEC was generally ineffective.

Hence, agricultural extension services aim at changing the rural people, training them to make independent decisions and make use of available local resources as reported by Maunder (2002). TETG (2011) noted that Research –Extension – Farmer –Input Linkage Systems (REFILS) is the platform that brings all sectors (both public and private sector) together in technology development, adaptation, dissemination and utilization process with clearly defined roles and responsibilities for all sectors. This agrees with the opinion of Idrisa and Ogunbameru (2012) that the quality and effectiveness of extension service depends on the knowledge and skill of the extension workers, namely, the Field Extension Workers (FESs), and the Block Extension Supervisors (BESs), who have the mandate to train farmers. reported that extension systems and delivery methods in many developing countries have been constantly viewed as ineffective in responding to demands and technological challenges of various types of clients and reaching the rural poor.

Factors limiting effectiveness of MEC technology dissemination was presented in table 2. The result showed that inadequate funding and inadequate logistics were the major factors limiting MEC technology dissemination with a mean score of 4($\overline{X}$ = 4), inadequate logistics with a mean score of 4 ($\overline{X}$=4),followed by low staff motivation with a mean score of 3 ($\overline{X}$=3.0), and poor farmers attitude to projects with a mean score of ($\overline{X}$ =2.4). Followed by poor monitoring and evaluation ($\overline{X}$=2.2), others were staff moral/ commitment ($\overline{X}$ 2.0), inadequate number of staff ($\overline{X}$ = 2.0), unavailability of technically trained staff ($\overline{X}$1.8), incompetence of staff ($\overline{X}$1.4). The grand mean was 2.5. This implies that these factors contributes immensely to the ineffectiveness of MEC in technology dissemination. The findings are in agreement with Nuhu (2002) who maintained that if an extension organization is well organized and structured and the extension agents adequately motivated through good welfare packages, in-service trainings and workshops, the tendency is that farmers will adopt and utilize innovations. **(**Auta and Dafwang 2010) reported that funding is grossly inadequate, irregular, and there is untimely release of funds to the Agricultural and rural development sector. Technology development and transfer in Nigeria, experience poor funding and lack of policy initiative in agricultural research as reported by Madukwe (2002).

The test of the hypothesis, which stated that, there is no significant difference in farmers' rating of MEC effectiveness is shown in Table 3. The result shows that the difference between the sample and population means was not significant at 5% level. From the result, the sample mean was 2.6853 and the population mean was 2.8948. There was a mean difference of 0.2095 between the sample and the population mean. The value of the Z – calculated (0.0054) was less than the value of the Z – tabulated (1.96). This implies that the farmers were unanimous in their rating of extension effectiveness. Hence, the sample was a true representation of the farmers in the study area. Therefore, the z-test accepts the null hypothesis that, there is no significant difference in farmers' rating of MEC effectiveness. This implies that the result obtained from the sample is a true reflection of the population parameter. This result is in tandem with that of Agbarevo and Nwachukwu (2014), who reported that there was no significant difference between farmers' mean rating of extension effectiveness and the level of farmers' adoption of introduced technologies at 95% confidence level. When an extension delivery system is effective, it impacts on the lives of farmers, raising their production capacity and standard of living. World Bank (2005) reported that effective extension service is of paramount importance to the development of agriculture. Ekong (2003) also stated that research findings which are deemed fit to improve farmers' production may be beyond the understanding of rural farmers and may never be accepted as normal farm practice except the extension system is effective enough to translate them to practical feasible practices.

Table -1: Level of Effectiveness of MEC in Technology Dissemination

	Very effective	Moderately effective	Less effective	Not effective	Mean
Staff visits	18(72)	63 (189)	99 (198)	-	2.60
Field meeting	12 (48)	72 (216)	78 (156)	18 (18)	2.40
Field days	21 (84)	69 (207)	84 (168)	6 (6)	2.60
Method demonstration	15 (60)	42 (126)	105 (210)	18 (18)	2.30
Result demonstration	15 (60)	54 (162)	87 (174)	24 (24)	2.30
Method/result demonstration	6 (24)	51 (153)	97 (194)	26 (26)	2.20
vision	6 (24)	78 (234)	69 (138)	27 (27)	2.40
Research extension linkage	-	51 (153)	96 (192)	33 (33)	2.10
Regularity of farmers training	6 (24)	55 (165)	86 (172)	33 (33)	2.10
Grand Mean					**2.30**

Source: Field survey, 2016

Key: > 2.50 = effective, ≤ 2.50 = Not effective

Table- 2: Factors Limiting Effectiveness of MEC Extension Delivery

Factors	Very high extent	High extent	Little extent	Very little extent	Mean Score
Inadequate funds	5 (20	-	-	-	4**
Inadequate logistics	5 (20)	-	-	-	4**
Poor monitoring and evaluation	-	2 (6)	2 (4)	1 (1)	2.2
Unavailability of technically trained staff	-	1(3)	2(4)	2(2)	1.8
incompetence of staff	-	1(3)	-	4(4)	1.4
Poor farmers' attitude to projects	1(4)	1(3)	2(4)	1(1)	2.4
Staff morale commitment	1(14)	1(3)	-	3(3)	2.0
Low staff motivation	2(8)	2(6)	-	1(1)	3.0*
Inadequate number of staff	-	2(6)	1(2)	2(2)	2.0
Grand mean					**2.5**

Source: Field Survey, 2016 Key: ** = High limiting factor * = Moderate limiting factor

Table-3: Result of Significance of difference in rating of MEC effectiveness among the farmers

Groups	N	$\bar{X}$	SD	α –level	Z – Cal	Z = tab
Sample	180	2.6853	2.8695	0.05	0.0054	1.96
Population		2.8948	2.865			

H_0: Accepted at 5% level

CONCLUSION

Based on the findings made, the study concluded that Michael Okpara University Extension Centre (MEC) was not effective in technology dissemination, and that poor funding, poor motivation of staff, inadequate logistics etc., were impediments to effectiveness of MEC in extension delivery services. Finally, it was concluded that MEC would be effective if all these major factors limiting its effectiveness could be address by the University authority.

RECOMMENDATIONS

It is recommended that the University authority should provide adequate funds, adequate logistics, and motivate their staff, to enhance effective extension delivery services since these are the major factors limiting their effectiveness. The study recommended that MEC should also look for alternative funding, such as grants from external agencies in order provide enough funds to meet its financial needs.

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