

FACTORS ASSOCIATED WITH EFFECTIVENESS OF UNIVERSITY-BASED RURAL DEVELOPMENT OUTREACHES IN SOUTHWESTERN NIGERIA

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Abstract

The study investigated factors associated with effectiveness of University-Based Rural Development Outreaches (UBRDOs) in Southwestern Nigeria. A total of 336 outreach beneficiaries were interviewed using interview schedule, in the two purposively selected UBRDOs using a multistage sampling procedure. Data collected were analysed using descriptive statistics and factor analysis. The mean age of the respondents was 52.4±15.8 years and 51.2 percent have been benefiting from UBRDOs for the past 10 years. A higher percentage (75.6%) got information about UBRDOs through their outreach's personnel. Some of the activities facilitated by the outreach were workshop on income generating activities (100%) and linkage with collaborating agencies (100%). Many (55.16%) respondents indicated that the outreach was moderately effective. Factors associated with effectiveness of UBRDOs were socio economic related ($\lambda = 1.9622$), outreach personnel related ($\lambda = 1.6744$), institutional (UBRDOs) related ($\lambda = 2.6458$) and community related ($\lambda = 0.9274$) factors. The factors identified explained 83.50 percent of the variance in effectiveness of UBRDOs in Southwestern Nigeria. It is recommended that efforts and resources should be mobilized by the outreach administrators towards addressing the factors associated with effectiveness of UBRDOs.

Key words: University-Based Outreaches, community leaders, capacity building, rural development, advisory services.

INTRODUCTION

The University-Based Rural Development Outreaches (UBRDOs) are borne out of the need for universities to fulfill their community engagement or community service responsibility to the immediate environment/communities who host them. The outreaches were modeled after the Cooperative Extension System of the United States (Groark & McCall, 2018; Ogunfeditimi & Ewuola, 1995) and tagged as part of the third role of the tripartite roles (teaching, research and community service) of universities. The outreach is anchored by Faculties/Colleges/Universities of Agriculture as the case may be. Although they have small area of coverage, nevertheless they are demand-driven, have in place highly technical staff, access to research reports of their academic departments, connections with research institutes and other development agencies. The outreach also put in place high quality services which are integrated in nature in implementing developmental programmes to selected rural communities and these

developmental efforts are geared towards improving the livelihood of the rural dwellers.

Some of the UBRDOs are: Integrated rural development programme (formally known as Isoya Project) of Obafemi Awolowo University Ile-Ife (OAU); Okpeju Project of University of Nigeria, Nsukka (UNN), Badeku Project of University of Ibadan and Kwara Project of Ahmadu Bello University (ABU), Zaria. In addition, all the universities of agriculture, that is Federal University of Agriculture Abeokuta (FUNAAB), Federal University of Agriculture Makurdi (FUAM) and Michael Okpara University of Agriculture Umudike (MOUUAU) also have their own outreaches.

Several authorities have carried out studies on UBRDOs. For instance, Madukwe et al. (2002) who studied analysis and comparison of the Agricultural Development Programme (ADP) and University agricultural technology transfer systems in Nigeria reported that the university had greater autonomy in agro-technology generation than the ADP. On technology transfer, the university grouped farmers and targeted them with programmes based on need

more than the ADP. ADP system had better knowledge of rural dynamics than the university system. The ADP had poor staff training facilities and provided inadequate training incentives to staff compared with the university which had better training facilities and provided competitive incentives to extension workers; Laogun et al. (2003) established that Isoya rural development programme has potential to boost food security in Nigeria; Adisa & Adeloje (2013) who examined the organization and management of farmers' groups under Isoya rural development project reported that the benefits derived by the respondents as a result of the group were increased income, increased access to agricultural inputs and increased access to agricultural innovations in that rank order. Adeloje & Adisa (2015) studied gender-sensitivity in the extension activities of UBRDOs in southwestern Nigeria concluded that there was higher interest in extension activities of UBRDOs among male farming youths than that of their female category; and Adeloje (2016) opined that UBRDOs in southwestern Nigeria were effective in the reduction of unemployment, diversification of livelihood activities, increase in income and improvement in living standard of the beneficiaries among others.

While findings of some of the studies acknowledged the prospects and effectiveness of the programmes, none of the studies focused on factors associated with effectiveness of the programmes. Therefore, there is need to fill the existing gap of identifying factors associated with effectiveness of UBRDOs in the study area. It is against this backdrop that this study was set to isolate those factors that determine the effectiveness of UBRDOs in southwestern, Nigeria.

The specific objectives of the study were to:

- i. describe the socio-demographic characteristics of the beneficiaries of UBRDOs;
- ii. identify rural development programmes facilitated by UBRDOs;
- iii. determine levels of effectiveness of UBRDOs; and
- iv. isolate factors associated with effectiveness of UBRDOs in the study area.

MATERIALS AND METHODS

The study was carried out in communities in South-Western Nigeria under the coverage of the UBRDOs, due to the fact that there is high concentration of the projects in the zone. A multi-stage sampling procedure was used to select respondents (outreach's beneficiaries) for the study. At first stage, two UBRDOs were purposively selected from the zone based on full spring activities going on in the outreach communities. The outreaches selected were integrated rural development programme of OAU and Agricultural Media Resources and Extension Centre (AMREC) model villages' development programme of FUNAAB covering 24 and 58 communities, respectively. The population for the study was a finite, that is, the population of UBRDOs' beneficiaries in integrated rural development programme of OAU and AMREC was 1,028. Yamane (1967) provides a simplified formula to calculate the least sample sizes to be selected from finite population. This formula was used to calculate the least sample sizes thus:

A 95% confidence level and $P = .5$ was assumed.

$$n = N / [1 + N (e)^2]$$

Where n is the sample size, N is the population size, and e is the level of precision.

Therefore,

$$\begin{aligned} n &= 1,028/[1+1,028(0.05)^2] \\ &= 1,028/3.57 \\ &= 288 \end{aligned}$$

For more robust analysis, the sample size was increased to 336, at the second stage, using proportionate sampling technique, thirty-five per cent of the benefiting communities in each of the UBRDOs was selected making 28 communities (20 and 8 communities from AMREC and integrated rural development programme of OAU, respectively). Finally, at third stage, a systematic random sampling technique, with a random start at an interval of two using beneficiaries' register as sampling frame was used to select 336 beneficiaries (240 and 96 beneficiaries from AMREC and integrated rural development programme of OAU, respectively) for the study. Data for this study was collected using interview schedule.

Data collected were analysed using descriptive statistics and factor analysis respectively.

Identification of rural development programmes facilitated by UBRDOs was measured by asking the beneficiaries to indicate the rural development programmes undertaken by the university in the last five years. A list of rural development programmes from pilot study and literature was made available.

For the effectiveness of the outreach, the beneficiaries were asked to assess each determinant of UBRDOs' effectiveness for the last five years. The response was on a 4-points scale from Excellent (4 points), Good (3 points), Fair (2 points), and Poor (1 point). The minimum and maximum scores were 4 and 68, respectively.

The total score per respondent was further classified into three levels of organisational effectiveness as follows: low, moderate and high organisational effectiveness using mean of total organisational effectiveness score plus and minus standard deviation. That is: high for scores above mean plus standard deviation; low for scores below mean minus standard deviation; and moderate for scores between the two. The names and photographs of the respondents were not taken to protect their privacy and anonymity right.

Factor analysis was carried out to isolate the crucial and unique factors influencing the effectiveness of UBRDOs. The factors in each group were named based on the following criteria as employed by Farinde (1995).

- i. picking synonyms of the higher loaded variables on each factor;
- ii. joint explanation or interpretation of the highly loaded variables on each factor; and
- iii. retaining the name based on the similarity of the factors reposed in the variables contributive to the factors.

In order to decide which factor to exclude, Kaiser's criterion was employed which according to Koutosoyianus (1977) was to select those factors which have Eigen value of greater than 0.3. Data collected were analyzed using both descriptive and inferential statistics with Statistical Package for Social Sciences (SPSS) 20th Edition.

RESULTS AND DISCUSSIONS

Socio-demographic characteristics of the respondents

Results in Table 1 reveal that the mean age of the respondents was 52.4 ± 15.8 years. This implies that the respondents comprise people of active minds and bodies, which might be versatile in making use of production technologies disseminated to them by the outreach.

More than half (52.3%) were male. This indicates that the outreaches were gender sensitive. Since only few (8.6%) were not having formal education; it implies that majority were literate. This contradicts the position of Olanrewaju (2014), aligned with the submissions of Soyebó (2005) and Alao (2010) that rural dwellers in Osun State were illiterate, this might be connected to their closeness to University which could upgrade their education status. The implication of this submission is that respondents are likely to be more receptive of innovations, improved practices and new ideas introduced to them. In addition, the result indicates that information about UBRDOs in the study area was mainly through outreach's personnel (75.6%), community leaders (74.7%) and media (71.4%). Furthermore, all (100%) the respondents participated in the outreach to better their lot in life, this is a departure from previous reasons for participating in development outreaches (mere interest and leisure) as reported by Olujide & Adeogun (2006).

Also the idea of anything coming from universities (69.8%) is authentic and laudable was strong in the study area. The average period of being outreaches' beneficiaries was 7.4 ± 4.6 years. The result implies that the relative long years of participating in UBRDOs was part of evidences that the UBRDOs had imparted their lives positively.

Identification of rural development programmes facilitated by the outreaches

Results in Table 2 show that 33 rural development programmes facilitated by the outreaches in the study area, for the past five years, were identified by the respondents.

Table 1. Socio-demographic characteristics of the respondents n = 336

| Variables | Frequency | Percentages | Mean |
|--|------------------|--------------------|-------------|
| Age (years) | | | |
| Below 16 | 71 | 21.3 | 52.4±15.8 |
| 16-35 | 108 | 32.1 | |
| 36-55 | 140 | 41.6 | |
| Above 55 | 17 | 5.0 | |
| Sex | | | |
| Male | 176 | 52.3 | |
| Female | 160 | 47.7 | |
| Membership of social group | | | |
| Yes | 274 | 81.7 | |
| No | 62 | 38.3 | |
| Nativity | | | |
| Indigene | 245 | 72.9 | |
| Non-indigene | 91 | 27.1 | |
| Ethnicity | | | |
| Yoruba | 283 | 84.3 | |
| Igbo | 44 | 13.1 | |
| Others | 9 | 2.6 | |
| Years of formal education | | | |
| No formal education | 29 | 8.6 | |
| 1-6 | 68 | 20.2 | 9.3±3.9 |
| 7-12 | 178 | 52.9 | |
| Above 12 | 61 | 18.3 | |
| *Sources of information about the projects | | | |
| Outreach's personnel | 254 | 75.6 | |
| Neighbours | 201 | 59.8 | |
| Friends | 132 | 39.3 | |
| Community leaders | 251 | 74.7 | |
| Media | 240 | 71.4 | |
| *Reasons for participation in the projects | | | |
| To make ends meet | 252 | 75.0 | |
| Personal interest | 203 | 60.4 | |
| For leisure | 84 | 25.0 | |
| To better my lot in life | 336 | 100.0 | |
| Universities being the anchor | 236 | 69.8 | |
| How long have you been beneficiary of the projects (years)? | | | |
| Below 5 | 83 | 24.8 | 7.4±4.6 |
| 5-10 | 172 | 51.2 | |
| 11-15 | 51 | 15.1 | |
| Above 15 | 30 | 8.9 | |

*Multiple responses

Source: Field survey, 2017

It was also revealed that all the respondents indicated that the outreaches facilitated production inputs sourcing and procurement, workshop on storage, processing and utilisation of agricultural produce, workshop on income generating activities and linkage with collaborating agencies. Also, 98.5 and 88.1 percent of the respondents indicated that the outreaches facilitated group and cooperatives formation programmes, respectively; while few (25.0%) of the project beneficiaries indicated

that the outreaches undertook adult education, introduction of 4-H club in secondary schools, agriculture in secondary schools and vocational training in bead making.

This finding implies that inputs sourcing and procurement, workshop on storage, processing and utilisation of agricultural produce, workshop on income generating activities linkage with collaborating agencies, group and cooperatives formation are the main rural development programmes facilitated by the

outreaches in the study area. The finding was in agreement with AMREC (2017) that reported main programmes facilitated by FUNAAB

outreach were workshop on income generating, linkage with collaborating agencies and cooperative formation.

Table 2. Identification of rural development programmes facilitated by the outreaches n = 336

| N/S | *Rural development programmes | Frequency | Percentages |
|-----|---|-----------|-------------|
| 1 | Production inputs sourcing and procurement | 336 | 100.0 |
| 2 | Workshop on storage, processing and utilisation of agric. produce | 336 | 100.0 |
| 3 | Workshop on income generating activities | 336 | 100.0 |
| 4 | Linkage with collaborating agencies | 336 | 100.0 |
| 5 | Group formation | 331 | 98.5 |
| 6 | Cooperatives formation | 296 | 88.1 |
| 7 | Land utilization programme | 286 | 85.1 |
| 8 | Distribution of soybeans thrashers to farmers | 286 | 85.1 |
| 9 | Distribution of Hydraulic presses to cassava farmers | 274 | 82.1 |
| 10 | Agricultural programmes on media like radio | 254 | 75.6 |
| 11 | Training on loan management | 252 | 75.0 |
| 12 | Training on water purification with moringa | 252 | 75.0 |
| 13 | Introduction of vitamin A fortified cassava | 252 | 75.0 |
| 14 | Cassava: Adding Value to Africa (C:AVA) | 240 | 71.4 |
| 15 | Workshop on personal cleanliness and hygiene | 240 | 71.4 |
| 16 | Training on drug use, misuse and abuse | 240 | 71.4 |
| 17 | Workshop on fortification of food with moringa | 237 | 70.5 |
| 18 | Workshop on aquatic management | 234 | 69.6 |
| 19 | Vocational training on hat making | 225 | 67.0 |
| 20 | Market price surveys and analysis | 192 | 57.1 |
| 21 | Workshop on fortification of food with soybean | 191 | 56.8 |
| 22 | Advisory services on bee-keeping | 160 | 47.6 |
| 23 | Diagnostic survey | 177 | 52.7 |
| 24 | Workshop on parenting and marital stability | 172 | 51.2 |
| 25 | Vocational training on rug making | 156 | 46.4 |
| 26 | Free medication like analgesics, haematinics | 156 | 46.4 |
| 27 | Vocational training on liquid detergent making | 141 | 42.0 |
| 28 | Distribution of knapsack sprayers to farmers | 141 | 42.0 |
| 29 | Distribution of fermentation vat to farmers | 111 | 33.0 |
| 30 | Vocational training on bead making | 84 | 25.0 |
| 31 | Adult literacy | 84 | 25.0 |
| 32 | Agriculture in secondary school | 84 | 25.0 |
| 33 | Introduction of 4-H club in secondary schools | 84 | 25.0 |

*Multiple responses

Source: Field survey, 2017

Levels of effectiveness of UBRDPs

Results in Figure 1 show that 7.74 percent of the outreaches' beneficiaries indicated that UBRDOs had a low effectiveness, 55.16 percent indicated that it had a moderate effectiveness, while 37.1 percent indicated that it had high effectiveness. The effectiveness

mean score was 58.7 ± 7.5 . The findings further reveal that majority (92.3%) of the beneficiaries indicated that UBRDOs were effective. This finding corroborates that of Burns (2007) and Cooper (2011) which stated that UBRDOs were effective.

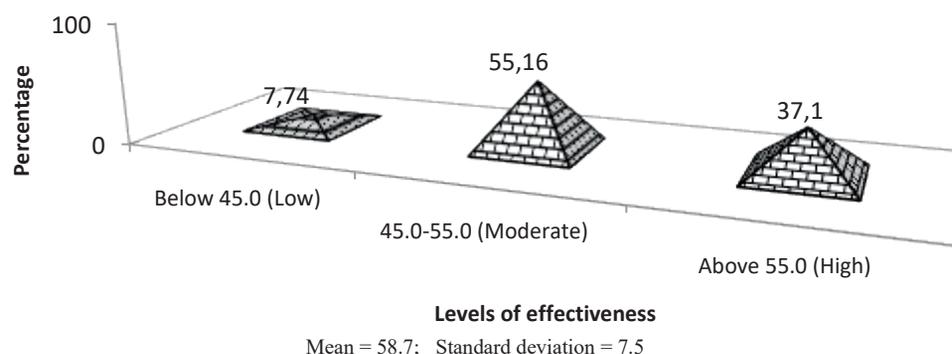


Figure 1. Pyramid chart showing distribution of respondents by levels of UBRDOs' effectiveness
Source: Field survey, 2017

Factors associated with effectiveness of UBRDOs

Results in Table 3 indicates that factors associated with effectiveness of UBRDOs in Southwestern Nigeria were socio-economic

($\lambda = 2.6458$), this pointed to the fact that the better and higher the socio economic status of the beneficiaries, the higher the likelihood that they are receptive to innovations introduced to them by UBRDOs.

Table 3. Factor analysis showing variables associated with effectiveness of UBRDOs

| | Factors and contributing variables | L | L ² | λ |
|----------|---|-------|----------------|-----------|
| 1 | Socio-economic factor | | | |
| | Beneficiaries' age | 0.545 | 0.2970 | |
| | Beneficiaries' sex | 0.561 | 0.3147 | |
| | Years spent in formal education | 0.621 | 0.3654 | 1.9622 |
| | Social group membership | 0.723 | 0.5227 | |
| | Years of benefiting | 0.680 | 0.4624 | |
| 2 | Outreach personnel' factor | | | |
| | Integrity | 0.582 | 0.3387 | |
| | Commitment | 0.393 | 0.1544 | |
| | Desired technical skills | 0.602 | 0.3624 | |
| | Communication skills | 0.440 | 0.1936 | 1.6744 |
| | Facilitation skills | 0.543 | 0.2947 | |
| | Organisation skills | 0.575 | 0.3306 | |
| 3 | Institutional (UBRDOs) factor | | | |
| | Accessibility to beneficiaries | 0.440 | 0.1936 | |
| | Organisational structure | 0.618 | 0.3819 | |
| | Availability of resources | 0.637 | 0.4058 | 2.6458 |
| | Operational strategies | 0.417 | 0.1739 | |
| | Incentive for personnel | 0.711 | 0.5055 | |
| 4 | Community related factor | | | |
| | Community perception of UBRDOs | 0.551 | 0.3036 | |
| | Community psychological characteristics | 0.550 | 0.3025 | 0.9274 |
| | Presence/absence of conflict | 0.416 | 0.1731 | |
| | Community infrastructure | 0.385 | 0.1481 | |

Source: Field survey, 2017

Significantly contributing at 0.05 percent

L = Loading for factor,

L² = Square of loading factor

λ = Latent root for the factor (ΣL^2)

The implication is that such beneficiaries, if convinced about the economic benefits of introduced innovation by UBRDOs might be handy in encouraging some other individuals too within same environment; outreach

personnel' ($\lambda = 1.6744$), this indicated that the better the projects' personnel characteristics, the better equipped they are to give their best for the betterment of the beneficiaries; they are also the ultimate means by which all other

resources needed by the projects are acquired. This corroborate the finding of Madukwe et al. (2002) which posited that university system appears to have more positive impact on the socio-economic characteristics, skills and commitment of personnel, thereby leading to retaining high quality development personnel, as it offers better conditions of service; institutional (UBRDOs) ($\lambda = 1.8202$), this implied that the more rational the organisational processes of UBRDOs, the more the effectiveness of the outreaches are enhanced. This agreed with the finding of IDRC (2006), Bragg (2001), and Archer-Kuhn & Grant (2014) which affirmed that processes

within an institution are germane to the achievement of its objectives; and community related ($\lambda = 0.7792$), this indicated that the more amiable the community to innovation, the more the effectiveness of UBRDOs are enhanced. The finding confirmed that of Groark & McCall (2018), and Adisa (2001) that reported that influence participation of rural dwellers in rural/community development projects/activities in Osun State, Nigeria.

The results in Table 4 reveal that the factors loaded explained 83.50 percent of variance, while unknown factors explained the remaining 16.50 percent of variance.

Table 4. Factor names and percentage variation accounted for by each factor associated with effectiveness of UBRDOs

| Factors | Name | % Variance | Comm. % var. |
|---------|------------------------|------------|--------------|
| 1 | Socio-economic | 21.80 | 21.80 |
| 2 | Outreach' personnel | 19.20 | 41.00 |
| 3 | Institutional (UBRDOs) | 32.20 | 73.20 |
| 4 | Community related | 10.30 | 83.50 |

Source: Field survey, 2017

CONCLUSIONS

Based on the findings of the study, it was concluded that majority of the outreaches' beneficiaries were adults that have been participating for past 10 years. Some of the activities facilitated by the outreaches were workshop on income generating activities, linkage with collaborating agencies, groups and cooperatives formation, training on loan management and training on use, misuse and abuse of drugs among others. Socio-economic, outreach personnel, institutional and community factors among others are associated with effectiveness of UBRDOs. It is therefore recommended that efforts and resources should be mobilized by the outreach administrators towards the isolated factors associated with effectiveness of UBRDOs.

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