Relevance of Sasakawa Africa Fund for Extension Education (SAFE) Programme Competency on Agricultural Extension Service Delivery in North-Western Nigeria

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Authors’ contributions

This work was carried out in collaboration among all authors. Author SH designed the study, managed the literature searches, wrote the protocol and wrote the first draft of the manuscript. Authors SU, IOO and GA finalized the design, protocol and checked the draft report. All authors read and approved the final manuscript.

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ABSTRACT

The study assesses the relevance of Sasakawa Africa Fund for Extension Education (SAFE) programme competency on agricultural extension service delivery in North-Western Nigeria. A multi-stage sampling technique was used to select 225 samples of the study. Two categories of respondents were used for data collection namely: SAFE beneficiaries (212) and lecturers’ in the departments of Agricultural Economics and Extension/Extension and Rural Sociology/Extension and Rural Development (13) of the three SAFE participating Universities in North-Western Nigeria. Primary data was collected using structured questionnaires. Data collected were analyzed using
1. INTRODUCTION

The effectiveness of an extension organization is determined by the ability of extension workers to design, deliver, and evaluate effective educational programmes, because they are directly serving the needs of the people. Their ability to perform extension tasks is a function of the job competencies and behavior. Future extension professionals need to be more skillful and futuristic to serve the needs of diverse clientele. Extension workers must learn new knowledge and skills, since it is only knowledgeable and skillful individual who can play a vital role in the success of an organization in today’s technological environment [1].

The role of effective agricultural extension delivery services in the improvement of livelihood of rural farmers in sub-Saharan Africa (SSA) cannot be over-emphasized [2]. Agricultural extension services include transferring knowledge to farmers, advising and educating farmers in their decision making, enabling farmers to clarify their own goals and possibilities, and stimulating desirable agricultural developments [3].

However, apart from providing farmers with the necessary knowledge, skills and required technical information to warrant them take effective farm management decisions to enhance their farm practices, agricultural extension workers are saddled with the responsibility of ensuring that innovations are passed on to farmers appropriately [4,2]. These services cannot be appropriately delivered at the right domains without the utilization of efficient extension personnel. The attainment of the latter can be hinge largely on the training of adequate and appropriate work force to carry out the task [5].

Competent extension workers are the assets of agricultural extension services. The diverse, dynamic agricultural system, advancing science and technologies, changing socio-demographics, increasing globalization and growing competition for resources demand agricultural extension workers to be proficient in the technical aspects of their areas of expertise [6]. In other words, the need and demand for extension workers to demonstrate a higher level of professionalism in their services are growing. As [7] stated, “extension employees should possess the necessary competencies to anticipate and deliver quality educational programmes of relevance and importance to our public”.

There are several opinions about the notion of competence among several human resource experts, where people use such terms as; competency, abilities, and attributes, in addition to differences in the factors that become the main content of the competency. Competency is an underlying characteristic of a person related to the effectiveness of individual performance on the job or the characteristics of individuals who have a casual basis or casual criteria referenced, effective, excellent, or superior performance in the workplace or in certain situations [8]. Generally, competency is the quality of being adequately or well qualified, having the ability to perform a job [9].

Agricultural extension service in Nigeria has suffered setbacks since 1995 when the World Bank withdrew her funding of the ADPs. This has resulted to inadequate training, insufficient funding at state level, poor logistic supports, inadequate staffing, use of poorly trained personnel, and disproportionate extension agent to farm-family ratio among others. Despite the prevailing situation, it is of note that AES is a force that must be reckoned with in the process
of achieving sustainable agricultural and rural development. Moreover, as a result of the Unified Agricultural Extension System (UAES), the extension officers in Nigeria have a lot of responsibilities in attending to the needs of their numerous clientele in various communities. An extension officer who has to assume such variety of roles amongst the farmers must prove his/her competence in many diverse areas in order to perform effectively [10].

Agricultural education and training in sub-Saharan Africa is “slow to adapt to new patterns of demand” and “lacks proper mechanisms for identifying emerging needs as well as for reforming curricula” to meet current demands [11]. They also argue that teaching methods and curricula must be kept relevant, and should be need based and market oriented to achieve success. This burden of achieving sustainable success with relevant curricula is placed squarely on higher education with its mission of developing the human capital needed to address emerging issues. A study [12] contends that adaptation to these changing needs must become strategic, rather than reactive, and challenges educators on the continent to:

i. thoughtfully examine and critically reflect on core underlying values and academic curricula (philosophies, epistemologies, subject matter content, and pedagogical practices) that have traditionally shaped agricultural and extension education in the context of their continuing relevance to the needs of the 21st century development in sub-Saharan Africa, and

ii. construct alternative frameworks for curricula revitalization that facilitate extension training relevant to the sustainability challenges and interests of rural producers, communities and households in the region.

To accomplish these twin goals, [12] suggests employing the Sasakawa Africa Fund for Extension Education’s (SAFE) method of revitalizing curriculum and pedagogy. Created in 1986, SAFE was the first systematic method devised to address the “increasingly evident ineffectiveness of traditional [AET] programs in Africa”. The SAFE methodology is conceptually framed around six factors: (a) scoping and situation analysis, (b) examining philosophies and visions behind practices, (c) thematic subject matter content, (d) experiential/active learning, (e) enabling environment, and (f) institutional networking [12].

It is against this backdrop that the Federal Government of Nigeria has been making concerted efforts along with other national and international non-governmental organizations (NGOs) to improve agricultural production and productivity of the nation’s citizens. In order to achieve this national goal, various intervention initiatives and projects have been implemented at different periods by successive regimes. Most of such projects and programmes came with various packages of agricultural innovations and approaches. The only strategy targeted at direct skill upgrade of extension personnel is the Sasakawa Africa Fund for Extension Education (SAFE) programme which was initiated by the Sasakawa Africa Association (SAA) and a Winrock International Foundation. The SAFE programme began operating in Africa in 1993 and extended its programme to Nigeria in 2002 [13]. In addition, SAFE programme was established in collaboration of SAA and Winrock international foundation base on the awareness of the insufficient competent extension personnel in extension programmes in SSA [14].

The aim of SAFE is to upgrade the skills of mid-career agricultural extension workers in Africa. Its imperatives are to i) involve agricultural colleges and universities in the rural development process, and ii) strengthen the competencies of extension workers in order to serve small farmers and meet their needs. To achieve these imperatives, Supervised Enterprise Projects (SEPs) have been a central practical training component of the SAFE programme. In SEPs, mid-career extension workers develop and implement projects with farmers under the supervision of Faculty lecturers from the university, as well as the mid-career extension worker’s employers [15].

In addition, The SAFE training programme SEPs are a form of apprenticeship for the participants. Apprenticeships were used in America during the colonial period to show adult learners how to solve problems and make decisions for the improvement of quality life. Though, apprenticeship is delineated well by experiential learning theory, which is the basis of the SEPs approach. John Dewey in [16] as cited in [17] affirmed that “all genuine education comes about through experience”. “Experience-based education may serve to clarify the type of experiences learners will encounter [16]”. Based
on the principles that adults are lifelong learners and they learn better by doing and experiencing.

Globally, studies in agricultural extension a case of SAFE contexts are few. Despite all these studies, there appears to be near absence of studies that focused directly on the relevance of SAFE programme on agricultural extension services in North Western Nigeria. This results to dearth of information on the contributions of SAFE programme in agricultural extension services.

In view of the above, it is important to assess the efforts and value of the investment made by the SAFE programme. It is against this backdrop that this study hopes to investigate the relevance of SAFE programme competency on agricultural extension services in North Western Nigeria for better extension services and agricultural development. To achieve this, the following research objectives were deemed necessary:

i. Describe the demographic characteristics of the SAFE programme beneficiaries in the study area.
ii. Identify the benefits derived from SAFE programme participation by the beneficiaries in the study area.
iii. Assess the perceived relevance of SAFE programme curricula to the competencies needed for effective extension services in the study area.
iv. Evaluate the influence of selected demographic characteristics of SAFE beneficiaries on their competency in the study area.

2. METHODOLOGY

The study was carried out in North-Western Nigeria. A multi-stage sampling technique was used to select “a total of 225 samples from the two groups of respondents, the SAFE programme and the lecturers from the SAFE Programme participating Universities”. Despite the fact that there are four SAFE programme participating Universities in the study area, three SAFE programme participating Universities were purposively selected namely; Ahmadu Bello University, Zaria (ABU), Bayero University, Kano (BUK) and Usman Danfodiyo University, Sokoto (UDUS). The choice of these Universities was premised on the fact that they are the Universities that have graduated SAFE beneficiaries for a period of 2005 - 2019. At the second stage, two groups of respondents were purposively selected namely; SAFE programme beneficiaries (212) and participating Universities/Departments lecturers (13). At the third stage, proportionate to size sampling method was used to select sample size (respondents) from each of the two selected groups. Finally, a simple random sampling was used to select the target respondents of the study. Primary data was collected using structured questionnaires. Data collected were analyzed using descriptive statistics (percentage counts; means; standard deviation) and inferential statistics (Logit regression).

**Decision Rule:** The perceived mean ratings from the five-point Likert scale were trichotomized such that any computed average means score value above × (3.0) + standard deviation (SD) was regarded as high competency levels; equal to × 3.0 + SD was moderate competency levels. While, any mean score value of less than (<) 3.0 was regarded as low competency level respectively.

2.1 Model Specification

Logit regression model

\[ L_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 - \ldots - \beta_n X_n + e \]

Where;

- \( L_i \) = Likelihood of overall job competency
- \( \beta_0 \) = intercept constant
- \( \beta_1 \ldots \beta_n \) = estimated coefficient
- \( X_1 \ldots X_n \) = set of independent variables

The dependent variable \( L_i \) =1 if a respondent had job competent and =0 if had not. The explanatory variables used in the Logit and hypothesized as respondents’ demographic factors contribute in job competency in the study area were:

- \( X_1 \) = Age (years)
- \( X_2 \) = Gender (Male =1, Female =0)
- \( X_3 \) = Marital status (Married =1, Not married =0)
- \( X_4 \) = Household size (number of persons in household)
- \( X_5 \) = Working experience
- \( X_6 \) = Level of Education (First degree =1; otherwise =0)
- \( X_7 \) = Workplace (Public =1, Private =0)
- \( X_8 \) = Grade level (Terminal =1, Not terminal =0)

2.2 Measurement of Variables

1. **Demographic characteristics of SAFE beneficiaries:** Age, household size, grade level and years of experience were
measured at interval level while gender, marital status, and educational level were measured at nominal level.

**Age** of the respondents was measured by the number of years from birth.

**Gender** of respondents was measured as Male = 1 and Female = 0.

**Marital status** of the respondent was measured as married = 1, single = 2, widow = 3, and Divorce = 4.

**Household size** of the respondents was measured as the number of dependent persons per household of a respondent.

**Working experience** of SAFE graduates was measured based on the number of years that respondent spent in extension service.

**Level of Education** of respondents was measured and scored based on the number of years spent in schooling as HND = 16, First Degree = 17, Masters = 19 and PhD = 22.

**Workplace** was measured and scored based on the type of extension organization that a SAFE graduate works with such as government or public = 1; private = 2, and NGOs = 3.

**Grade Level** was measured and coded based on the equivalent grade level scale of employee in any organization such as GL8= 1; GL9= 2, GL10= 3, GL11= 4, GL12= 5, GL13= 6, GL14= 7, GL15= 8 , GL16= 9, GL17= 10.

### 3. RESULTS AND DISCUSSION

#### 3.1 Demographic Characteristics of SAFE Beneficiaries

Table 1 provides information on age, gender, marital status, household size, working experience, and educational level of the SAFE beneficiaries in the study area.

The result on the age distribution of SAFE beneficiaries is presented in Table 1. The result reveals that 38.54% of the SAFE beneficiaries had less than 40 years. While more than quota (47.92%) of them were between 41 – 50 years with only 13.54% had 51 – 60 years of age. The mean age of SAFE beneficiaries observed was 43.73 years with a standard deviation of 6.337. This indicates that the ages of respondents are highly varied, they are found to be within the active age bracket of 40 - 50 years. This also implies that 86.46% of the SAFE beneficiaries in the study area were less than 50 years of age; as such competencies acquired can be utilized for more than 15 years in extension work. The result is in conformity with the findings of [18,19,10] that agricultural extension workers in Oyo, Ogun, Kebbi, Katsina in Nigeria are between 40 – 50 years of age which means that competencies acquired through training can still be utilized for effective extension services for at least 15 years.

The result in Table 1 reveals that majority (96.35) of the SAFE beneficiaries were male with only 3.65% female in the study area. This implies that gender in the study area as affected by SAFE programme were found to be dominated by males as male were predominant in the agricultural extension services in the study area. The implication is that trained and qualified women extensionists are important, as any other field, for an envisaged fast development of the agricultural sector. The small number of female extension graduates and their under-representation in the key decision positions is a great concern and a handicap in agricultural development. Their expertise could have been used to address several rural development issues including the rural women. Consequently, this may affect any programme that is women-centered programme in the study due to small number of female personnel to effectively handle the programme. This study agreed with the findings of [20,10] that agricultural extension workers in Oyo, Ogun as well as in the Northern states of Nigeria were mostly male and this has a
negative implication for gender balance in extension services.

The finding further reveals that majority (86.46%) of the SAFE beneficiary respondents were married, 10.94% single and only 2.60% were widowed. This practice conforms to the both Islamic and Christian religions that motivate and uphold marriage as an act of worship in the study area, as majority of people in the North West are Muslim with minority Christians. This finding confirmed that of [17] in Mali and [10] in Nigeria, observed that most of the agricultural extension workers were married. This upheld the societal expectation that married people in the regions has values, respect, integrity, and are responsible. Therefore, this may promote extension worker efficiency and effective service delivery.

The result on household size indicates that 48.96% of the SAFE beneficiaries had family size of about 6–10 person, 41.15% had about 0–5 person while 9.89% of the SAFE beneficiaries had more than ten persons per household with a mean of about 6.08 persons and a standard deviation of 4.144. This result conforms to that of [17,10], whose observed that the household size of extension workers and SAFE graduates to be more than five persons per household size. However, a large household size may be as a result of long-life age of the respondents and this may consequently had negative implication on the job commitment and competency of worker due to family-job conflict.

The distribution of SAFE beneficiaries according to the educational level is presented in Table 1. Although, all the SAFE beneficiaries were Higher National Diploma (HND) holders before participation in the SAFE programme. Furthermore, after SAFE programme participation the result indicates that majority (90.6%) of SAFE beneficiaries had B.Sc. degree, 8.9% had master’s degree and only 0.5% had Ph.D. degree. This implies that the distribution of SAFE beneficiaries on the educational level shows that they are well educated and trained to undertake any agricultural responsibilities because they have better technical and professional skills due to the exposure and intervention from SAFE programme. This corroborates with the findings of [21,20,10], that SAFE graduates are well equipped and competent for their job as competency and adequate job behaviors are vital tools for the successful agricultural development.

The result on years of working experience of the SAFE beneficiaries reveals that 38.02% had more than 20 years of work experience and 32.81% had 1 – 10 years. The result also shows that 29.18% of SAFE beneficiaries had 11 – 20 years of working experience. The mean years of working experience was estimated as 18 years with a standard deviation of 9.029. This suggests that SAFE beneficiaries may have acquired a lot of experiential learning on the job which improved knowledge in assisting their clients, participates on government policy formulations and implementation about farm family. Experience enables the extension worker to acquire more experiential learning which increases their field knowledge.

This result corroborate with the recommendation of [10] that many years of experience may not be a guarantee for competency, but acquiring more competencies by extension workers which enables them strengthen their commitment and function effectively in their respective service areas as purposely design for SAFE programme.

3.2 Workplace of SAFE Beneficiaries

The result on workplace of SAFE beneficiaries were observed that 43.39% of the respondents were working with agricultural development projects (ADPs), 10.38% work with Federal Ministry of Agricultural and Rural Development and their agencies, 30.19% work under states Ministries of Agriculture and Rural Development and Ministries of Livestock and Animal Husbandry while 10.85% and 5.19% of the respondents indicates to work with Local Government Council and Non-governmental organizations in the study area respectively. This implies that SAFE programme beneficiaries are widely spread to mostly agricultural related agencies in in study area. This corroborate with the finding of [10] that ADPs should intensify with innovative competencies relevant to farmer's needs.

3.3 SAFE Beneficiaries’ Grade Level before and after the Programme

The distribution of SAFE beneficiaries according to the grade level before and after SAFE participation is presented in Table 3. The findings on the grade level before SAFE programme participation revealed that high percent (21.23%) of the respondents were on grade level 8; 19.34% of the respondents were on terminal
Table 1. Distribution of safe beneficiaries by demographic characteristics (n=212)

| Variables          | Percentage (%) | Mean | SD  |
|--------------------|----------------|------|-----|
| **Age**            |                |      |     |
| ≤ 40               | 38.54          |      |     |
| 41-50              | 47.92          | 43.73| 6.337|
| ≥ 51               | 13.54          |      |     |
| **Gender**         |                |      |     |
| Male               | 96.35          |      |     |
| Female             | 3.65           |      |     |
| **Marital Status** |                |      |     |
| Married            | 86.46          |      |     |
| Single             | 10.94          |      |     |
| Widow              | 2.6            |      |     |
| **Household size** |                |      |     |
| 0-5                | 41.15          |      |     |
| 6-10               | 48.6           | 6.08 | 4.144|
| ≥ 11               | 9.89           |      |     |
| **Working experience** |            |      |     |
| 0-10               | 32.81          |      |     |
| 11-20              | 29.17          | 17.79| 9.029|
| ≥ 21               | 38.02          |      |     |
| **Educational level** |              |      |     |
| B.Sc.              | 90.6           |      |     |
| M.Sc.              | 8.9            |      |     |
| Ph.D.              | 0.5            |      |     |

Source: Field survey (2019). NB: SD = Standard Deviation

Table 2. Distribution of safe beneficiaries by workplace (n=212)

| Workplace                                | Frequency | Percentage (%) |
|------------------------------------------|-----------|----------------|
| Agricultural Development Projects (ADPs) | 92        | 43.39          |
| State Ministry of Agriculture           | 64        | 30.19          |
| Federal Ministry of Agriculture         | 22        | 10.38          |
| Local Government Agricultural departments| 23        | 10.85          |
| Non-Governmental Organization (NGOs)    | 11        | 5.19           |

Source: Field survey (2019)

Table 3. Distribution of safe beneficiaries by grade level (n=212)

| Grade level | Before SAFE participation | After SAFE participation |
|-------------|---------------------------|--------------------------|
|             | Frequency | Percentage | Frequency | Percentage |
| 08          | 45            | 21.23      | 7          | 3.30       |
| 09          | 29            | 13.68      | 32         | 15.09      |
| 10          | 18            | 8.49       | 24         | 11.32      |
| 11          | 21            | 9.91       | 15         | 7.08       |
| 12          | 19            | 8.96       | 38         | 17.92      |
| 13          | 39            | 18.39      | 26         | 12.26      |
| 14          | 41            | 19.34      | 36         | 16.88      |
| ≥ 15        | 0             | 0          | 34         | 16.05      |
| Mean        | 10.41         | 12.13      |            |            |
| Standard Deviation | 2.532  | 2.656      |            |            |

Source: Field Survey (2019)

The mean grade level was estimated as 10.41 with a standard deviation of 2.532. This implies that insufficient educational level of workers’ affect their status and position in their organizations. This agreed with the findings of [21,17,20] who’s observed that HND holders.
are restricted access into administrative and officer’s cadre with low earnings in agricultural extension work.

Similarly, the study reveals that high percent (17.92%) of the SAFE beneficiaries were on grade level 12. The mean grade level of 12.13 was estimated with a standard deviation of 2.656. Whereas, the result further indicates that there was a panacea on the terminal grade level 14 due to additional qualification of B.Sc. degree that give a of scored 16.05% of the respondents on GL 15 and above.

Therefore, this study indicates that on the job training affect employees positions and motivates its commitment and competency level. This agreed with the previous findings of [21,17] that there were increased in monthly earnings of the SAFE graduates which motivates their job commitment and performance.

3.4 Benefits Derived from SAFE Programme Participation

The distribution of SAFE beneficiaries according to the benefits derived from SAFE programme participation is given in Table 4. The result reveals that extension officers in the study area have benefited a lot from SAFE programme participation. Based on this study twelve benefits were identified by the SAFE beneficiaries among which are; extension knowledge, field demonstration skills and job integrity were considered and ranked first with 9.13% respectively. These was followed by salary increased, report writing skill and self-esteem ranked as fourth (9.08%) respectively among the benefits derived. Meanwhile, the least (1.82%) benefit derived was further studies by the SAFE beneficiaries ranked twelve. This could be attributed to age group of SAFE beneficiaries and SAFE programme itself, which is more of adult education (Andragogy).

This finding implies that SAFE programme has effectively impacted a lot on the lives of its beneficiaries, ranging from extension knowledge that influence extension profession, also to demonstrate positive attitude towards extension services. Salary increased may motivate extension officer towards job commitment and satisfaction. On the overall view, benefits derived by the SAFE beneficiaries could be an additional factor for effective competency and a well behavior on the job.

3.5 Perceived Relevance of SAFE Programme Curricula Job Competencies

The distribution of SAFE beneficiaries’ employers according to the relevance of SAFE programme curriculum competencies in extension service delivery is presented in Table 5. The result revealed that out of 18 areas of SAFE programme curricula competencies studied, nine (9) competency areas were considered highly relevant in extension services in the study area namely; Supervised enterprise project ($\bar{x} = 4.87$) was considered the most highly relevant competency area followed by the participatory rural appraisal (PRA) ($\bar{x} = 4.73$), professionalism, Agricultural entrepreneurship and organizational management with mean scores of ($\bar{x} = 4.60$) each respectively. The highly relevant rating of SEPs is not coincidence or by chance as the current trend of extension service is geared toward pluralism.

### Table 4. Benefits derived by the SAFE beneficiaries (n = 212)

| Benefits Derived        | Frequency* | Percentage (%) | Rank |
|-------------------------|------------|----------------|------|
| Extension knowledge     | 176        | 9.13           | 1st  |
| Field demonstration     | 176        | 9.13           | 1st  |
| Self-management         | 174        | 9.03           | 7th  |
| Salary increased        | 175        | 9.08           | 4th  |
| Promotion               | 159        | 8.25           | 11th |
| Research skills         | 167        | 8.67           | 9th  |
| Report writing          | 175        | 9.08           | 4th  |
| Job satisfaction        | 174        | 9.03           | 7th  |
| Sociability             | 165        | 8.57           | 10th |
| Self esteem             | 175        | 9.08           | 4th  |
| Further studies         | 35         | 1.82           | 12th |
| Job Integrity           | 176        | 9.13           | 1st  |
| Total                   | 1,927      | 100            |      |

Source: Field survey (2019)

NB: * implies multiple responses recorded
The expectation is that an extension professional involved all agricultural stake holders in identifying and solving a farming problem through practical demonstration. This study conformed with the views of [22] that the success of extension outfit depends greatly on their competencies and ability to demonstrate and disseminate innovations to their target farmers (clients). However, the least relevant rating competency area but rated high among 18 competencies area identified in SAFE programme curricula was use of English ($\bar{x} = 4.13$), this indicate that English Language development is essential in extension work in the study area even though majority of agrarian farmers in the area are low literates, as such extension personnel needs English language to transcribed problems identified by the farmers for immediate solutions.

In addition, the result implies that all the competencies identified in SAFE programme curricula were perceived by the SAFE beneficiaries' employers as relevant and deemed necessary for effective extension service delivery, therefore they should be demonstrated on the job by the SAFE beneficiaries as they were very equipped to meet the current challenge of agricultural extension profession.

### 3.6 Demographic Influencing Safe Beneficiaries' Competency Level

Table 6 delineate a model summary of the Logit regression with eight independent variables (age, gender, marital status, household size, work experience, educational level, workplace and grade level) and the job competency of SAFE beneficiaries as dependent variable (Y). This objective is to examine the contribution of each demographic characteristic on the overall competency level of SAFE beneficiaries at alpha level 0.05 ($p\leq0.05$).

The result of this study was estimated with the used of maximum likelihood ratio (67.42) which reveals that there was significance relationship between demographic characteristics of SAFE beneficiaries and their competency on the model calculated as: Chi-square of 65.0 was significant at 5% ($p\leq0.05$). The $R^2$ – value of 0.792 indicated that the variables in the model account for 79.2% of the variation among the explanatory factors that has significant effect on the competency level at ($p\leq0.05$).

| Characteristic areas                          | VH  | H   | M   | L   | VL  | $\bar{x}$ | SD  | Decision |
|----------------------------------------------|-----|-----|-----|-----|-----|-----------|-----|----------|
| Programme planning                          | 52.9| 47.1| -   | -   | -   | 4.53      | .516| High     |
| Group dynamics and public relation           | 35.3| 58.8| 5.9 | -   | -   | 4.40      | .737| High     |
| Gender and youth issues                      | 52.9| 47.1| -   | -   | -   | 4.53      | .516| High     |
| Use of English                              | 52.9| 35.3| 11.8| -   | -   | 4.13      | .834| High     |
| Extension teaching and comm.                 | 52.9| 47.1| -   | -   | -   | 4.40      | .734| High     |
| Resource management                          | 35.3| 41.2| 23.5| -   | -   | 4.27      | .704| High     |
| System thinking                             | 47.1| 41.2| 11.8| -   | -   | 4.33      | .816| High     |
| Research method and statistic                | 41.2| 47.1| 11.8| -   | -   | 4.40      | .737| High     |
| Cooperative practices & Policy issues        | 47.1| 35.3| 17.6| -   | -   | 4.40      | .737| High     |
| Organizational management                    | 52.9| 35.3| 11.8| -   | -   | 4.60      | .737| High     |
| Value addition                              | 47.1| 41.2| 11.8| -   | -   | 4.40      | .737| High     |
| Agricultural entrepreneurship                | 47.1| 35.3| 17.6| -   | -   | 4.60      | .737| High     |
| Climatic change and mitigation               | 70.6| 17.6| 11.8| -   | -   | 4.47      | .640| High     |
| ICTs                                        | 58.8| 29.4| 11.8| -   | -   | 4.53      | .516| High     |
| Participatory Rural Appraisal                | 35.3| 47.1| 17.6| -   | -   | 4.73      | .458| High     |
| Supervised Enterprise Projects               | 52.9| 35.3| 11.8| -   | -   | 4.87      | .352| High     |
| Professionalism                             | 52.9| 35.3| 11.8| -   | -   | 4.60      | .507| High     |
| Conflict resolution                         | 52.9| 41.2| 5.9 | -   | -   | 4.33      | .816| High     |

**Source:** Field survey, (2019).

**NB:** VH= Very High; H= High; M= Moderate; L= Low; VL= Very Low; $\bar{x}$= Mean; SD= Standard deviation. Likert scores are in percentages. (Decision: Results were trichotomized as: above 3.00 + SD = High; 3.00 + SD = Moderate; Less than 3.00 = Low Important)
Table 6. Relationship between Safe beneficiaries’ demographic characteristics and competency level

| Variables       | Coefficient | SE  | Wald  | P-value |
|-----------------|-------------|-----|-------|---------|
| Constant        | 5.857       | 3.159 | 0.382 | 0.000** |
| Age             | -3.857      | 7.254 | 0.071 | 0.045*  |
| Gender          | 0.968       | 0.254 | 2.340 | 0.003** |
| Marital Status  | -0.057      | 0.126 | -1.240| 0.132   |
| Household Size  | -1.741      | 0.839 | 1.086 | 0.022*  |
| Work Experience | 1.011       | 4.854 | 1.400 | 0.013** |
| Educational Level| 2.756       | 0.121 | -5.329| 0.001** |
| Workplace       | 0.876       | 0.756 | -2.531| 0.017*  |
| Grade level     | 1.744       | 0.732 | -2.547| 0.032*  |
| Max. Likelihood Ratio | 67.42  |       |       |         |
| Chi-square      | 65.0        |      |       |         |
| R²              | 0.492       |      |       |         |

NB: SE = Standard Error, p ≤ 0.05 is significance

The study delineate that age, gender, household size, work experience, educational level, workplace, and grade level had significantly contributed on the job competency level of SAFE beneficiaries. But marital status had no significant effect on the competency level among the respondents. The result tally with that of [23,10], reported that gender, religion, marital status, family size and educational level were not significantly related to extension officers knowledge and competency needs in Oyo and Ogun state, Nigeria. This is because, extension officers in the Southern parts are more educated, socialized and has low gender sensitivity in terms of male-female interaction compared to purdah act in Northern parts of Nigeria as observed by [24,25] in Kebbi and Katsina states.

4. CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

The study established that majority of the SAFE programme beneficiaries were male, married with the mean age of 44 years. The study also established that SAFE programme has bridge the gap (dichotomy) between the HND and first degree issue in agricultural extension services in the study area; as some of the beneficiaries enjoyed advancement on terminal grade level 14. The competency training received by the SAFE beneficiaries was observed to equip them to be competent enough in agricultural extension services delivery. In addition, SAFE beneficiaries were perceived to derive a lot of benefits upon completion of the programme. The study also established that the SAFE programme competencies were observed to be highly relevant in agricultural extension services. Similarly, the demographic factors of the SAFE beneficiaries have significant effect on their job competency. The study therefore, concludes that the SAFE programme has improved the job competency of agricultural extension workers in the study area and significantly gained impact on the agricultural extension service delivery.

4.2 Recommendations

Based on the findings of the study, the following recommendations were deemed necessary with the view to making SAFE programme and agricultural extension work viable tools for the improvement of agriculture and rural development.

i. The North-western states, Federal and Non-governmental organizations should employed more female extension workers to meet the gender equality required in extension services. This is because women-centered programme should be female touch for effective delivery.

ii. Government and Non-governmental Agricultural sectors should recruit more youth graduates into the sector to curtail rain drain of competent ageing workers.

iii. SAFE programme competencies should be adopted into the conventional or traditional agricultural degree programme because of its relevant to the extension services.

COMPETING INTERESTS

Authors have declared that no competing interests exist.
REFERENCES

1. Seevers B, Graham D, Conklin N. Education through cooperative extension (2nd Ed.). Columbus, Ohio: Ohio State University; 2007.
2. Ani A. Agricultural extension: A pathway for sustainable agricultural development (1st Ed.). Ibadan, Nigeria: Lound Books/Apani Publication; 2007.
3. Aker J. Dial 'A' for agriculture: Using information & communication technologies for agricultural extension in developing countries. Medford MA 02155, Tuft University, Economics Department and Fletcher School; 2010.
4. Undiandeye U, Kushwaha S, Daneji M. Sustainability of the Training and Visit (T&V) approach in extension service delivery in Nigeria. Journal of Agricultural Business & Technology. 2003;1(2):128-136.
5. Ogunbameru B, Undiandeye U, Ani A. Definition, philosophy and principles of agricultural extension. In B. Ogunbameru, U. Undiandeye, & A. Ani (Eds.), Agricultural Extension Methodologies. Kaduna, Nigeria: Apani Publication. 2008;151.
6. Melak D, Negatu W. Agricultural education and technical competency of development agents in Ethiopia. Journal of Agricultural Extension and Rural Development. 2012;4(11):347-351.
7. Maddy DJ, Niemann K, Lindquist J, Bateman K. Core competencies for the cooperative extension system; 2002. (Retrieved November 22, 2014) Available:https://www.msuextension.org/jo bs/forms/core-competenciespdf
8. Moehlerino O. Pengukuran Kinerja Berbasis Kompetensi. Ghalia Indonesia: Bogor; 2009.
9. Cernusca L, Dima C. Competency and human resource management. International Journal of Psychology, III; 2007.
10. Nwaogu FK, Akinbile LA. Competencies of agricultural development programme personnel in extension service delivery in Oyo and Ogun States Nigeria. Journal of Agricultural Extension. 2018;22(3):40-52.
11. Kidane TT, Worth S. A review of agricultural education and training in South Africa. African Journal of Agricultural Research. 2012;7(18):10.
12. Kroma MM. Participation and social learning: Supporting farmers innovations in Central Ghana. International Journal of Agricultural Economics and Extension Education. 2003;10(1):43-49.
13. Donye A, Ja'afar-Furo M, Obinne C. Improving smallholders farmers and extension in Nigeria: The Sasakawa Africa Fund for extension education strategy. Agriculture & Biology Journal of North America. 2013;21(51):75-85.
14. Sasakawa Africa Fund for Extension Education (SAFE). Feeding the future. Newsletters Sasakawa Africa Association, Nigeria; 2015.
15. Deola N. Thematic 4 Sasakawa Africa Fund for Extension Education (SAFE). Annual Report, Newsletters; 2012.
16. Munoz MD, Munoz MA. John Dewey on democracy, education, experience and communication: Implications for adult education in developing democratic organizations. (E. R. (ERIC), Ed.) U.S. Department of Education; 1998.
17. Assa K. Assessment of Sasakawa Africa Fund for Extension Education Training Programme in Mali: Graduates' perceptions of the training impact as well as opportunities and constraints related to supervised enterprise projects. PhD Thesis; 2013.
18. Akinbile LA. Social impact of limestone exploitation in Yewa North Local Government Area of Ogun State, Nigeria. Pakistan Journal of Social Science. 2007;4(1):107-111.
19. Ayansina S, Adeogun S. Professional competency needs of agricultural extension agents of Ogun State Agricultural Development Project (OGADEP). Ife Journal of Agriculture. 2017;29(2):28-38.
20. Hamisu S, Makinta M. Effects of Sasakawa Africa Fund for extension education training. Deutsche, Balti, Republic of Moldova: LAP Lambert Academic; 2017.
21. Suleiman A. Performance of Supervised Enterprised Projects (SEPs) conducted by Sasakawa Africa Fund for Extension Education Students' of Bayero University, Kano (BUK). M.Sc. Dissertation, Faculty of Agriculture, BUK, Department of Agricultural Economics & Extension; 2012.
22. Jasmin A, Asmuni A, Ismail A. Roles of extension agents towards agricultural practice in Malaysia. International Journal
23. Adegoke OA. Knowledge of crop agricultural biotechnology among agricultural extension agents in Oyo State ADP. Unpublished M.Sc Project, 2015.

24. Haruna AC. Assessment of knowledge, attitude and practice of village extension workers in Kebbi State. Unpublished PGD Project, Usmanu Danfodiyo University, Sokoto; 2001.

25. Mamman M, Umar BF, Abubakar BZ. Analysis of job performance of agricultural extension agents in Katsina State of Nigeria. Proceedings of the 45th Annual Conference of the Agricultural Society of Nigeria (ASN). 2011; 113-118.