

## **Professional Competencies Perceived to be Important and Needed by Female and Male Agricultural Extension Agents: A Study from Nigeria**

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**ABSTRACT** Shortage of competent or well-trained agricultural extension staff is affecting food security in Benue State, Nigeria. The research was conducted to compare female and male extension agents on the importance and needs of competency categories. Simple random sampling was used to select 150 (40 female and 110 male) respondents for the research. The result revealed that high proportion of the female respondents perceived competencies in importance in the following order: ability to motivate farmers, commitment to extension work, work management, planning, organising and priority setting whereas the three most important competencies as perceived by male agents were: ability to motivate farmers, spoken and verbal communication fluency and development of instructional materials. Categories of need competencies of high rating by the female agents were: evaluation of extension programmes, subject-matter expertise and communication, where male agents rated the needed competency categories to include: subject-matter expertise, evaluation and personal qualities. To enhance the competency of the extension agents, professional values, training opportunities that are focused on areas relating to competency needs should be stressed.

### **INTRODUCTION**

There is a shortage of well-trained agricultural extension staff in many developing countries (FAO 1990) which raises the question as to which strategy should be used for human resource development in agricultural extension in sub-Saharan Africa. Agricultural extensions constitute the least-trained group of staff in African agricultural organizations. The initial training is usually inadequate and where in-service training is provided, it is often ad hoc and not responsive to the changing nature of extension tasks. FAO (1990) estimates that the number of economically active people in agricultural areas in developing countries who receive extension services each year is one in five, an extension staff-to-farmer ratio of 1:2000. Given the low numbers of extension staff, accompanied by low levels of training, it is not surprising that extension organizations are functioning poorly in Africa.

According to the FAO (1990), current agricultural trends such as those related to population, gender and environmental issues are placing diverse and often very complex demands on extension staff. Agricultural extension staffs are central to facilitating the changes associated with these trends. It is imperative that formal training or retraining programmes provide opportunities

for extension workers to conduct independent or group educational projects in environments similar to those they face in their activities. However, an extension agent must fulfill a number of different roles and therefore, must prove his competence in many different areas. Other skill areas identified for competencies include communication skills, human skills, conceptual skills, emotional intelligence skills and industry knowledge skills (Robbin et al. 2001). Cooper and Graham (2001) identified programme planning, implementation and evaluation, public relations, personal and professional development, staff relations, personal skills, management responsibility and work habits to be essential competencies for extension agents.

In this era of globalization, a knowledgeable and skilled individual can play a vital role in the success of an organization. According to Seevers et al. (2007), future extension professionals need to be more skillful and futuristic to serve the needs of diverse audience. To be a successful extension agent today, one must be competent not only in technical matters, but also in areas such as management, programming, communication human relations and leadership (Graham 2009)

According to Harder et al. (2010), international travel is a method used to develop cross-cultural competencies among extension agents.

Florida Cyr (2008) also found that extension staff increased their long-term use of facilitation competencies by participating in training. Ensle (2005) suggested that extension administrators need to understand how the young agents' values will affect the extension organization in the future, as these groups are likely to give up opportunities for professional developments in exchange for more time with family and friends.

According to Harder et al. (2010), hands on experience was considered the most important for professional and personal development. This indicates different agents have different delivery preferences for learning about competencies.

### Competency and Extension Work

Wisconsin Cooperative Extension (2002) defined competency as having sufficient knowledge, attitudes and skills that can contribute to excellence in extension education programmes. Therefore, competency is a sufficient quantity of knowledge, skill and ability to accomplish a particular task or purpose. Mitchell (2002) advised each extension professional to possess personal strengths, capabilities as an educator, capabilities in information technology and expertise in their academic specialty. According to Mitchell (2002), employees are the most valuable assets of the extension system. To enhance the competency of extension professional value, training opportunities that are focused on areas relating to competency needs should be stressed.

A competence assessment is designed to evaluate individual knowledge, education skills, experience and proficiency to perform those assigned responsibilities. Comparing competency needs of extension agents is recognized as an important element among extension services and seen as a critical factor in the success of the organization.

### MATERIAL AND METHODS

Benue State, also known as the food basket of the nation because of its output of agricultural produce, has a population estimate of four million, two hundred and nineteen thousand, two hundred and forty-four (4,219,244) (NPC 2007). Agriculture is the major occupation of the inhabitants and the area is basically rural. However, other occupations like the public service,

teaching and trading are also found. Benue State is endowed with fertile land, including vast expanse of alluvial Fadama land that would probably be able to meet the food needs of the nation if the human and natural endowments could be effectively exploited. The crops grown include yams, water yam, cassava, rice, maize, guinea corn, millet, beniseed, soyabean, groundnut, horticultural crops and fish.

While it is important to recognize the roles of the farmers in food production and agriculture, it is even more important to increase their agricultural productivity. This depends to a large extent on the competency of the change agents to ensure steady and increase flow of the appropriate information to them. Benue State Agricultural Development Programme also known as Agricultural and Rural Development Authority (BNARDA) is the agricultural extension agency. It has the major responsibilities for extension services and rural development.

The sample frame of the village agricultural extension agents in Benue State Agricultural and Rural Development Authority (BNARDA) at the time of the interview was 212 agents (168 male and 44 female agents). Out of these, 110 male and 40 female agents were interviewed. A total of one hundred and fifty respondents were interviewed. Descriptive statistics such as percentage, mean, standard deviation, Likert-scale and student t-test were used to analyse the socio-economic characteristics and competencies. Four-point rating scale was used to analyse their perceptions. The scale includes Most important=4, Important=3, Moderately important=2, Least important=1. Also, Great need=4, Need=3, Moderate need=2 and Least or none=1 of competency needed were used.

### RESULTS

Result shows the socio-economic characteristics of the respondents. Out of these, only age, education level and annual income showed significant difference in the mean at 0.05 level of probability between male and female village extension agents. It could be explained that, as the difference in the educational level was significant, it had effect on the income levels of the respondents. In other words, differential educational background of the extension agents accounted for differences in income (Table 1).

**Table 1: Distribution of respondents according to socio-economic characteristics**

| Variables                                | Female  |            | Male |       |
|------------------------------------------|---------|------------|------|-------|
|                                          | F       | %          | F    | %     |
| <i>Age (Years)</i>                       |         |            |      |       |
| 30-40                                    | 20      | 50         | 27   | 24.5  |
| 41-51                                    | 19      | 47.5       | 77   | 70.0  |
| ≥52                                      | 1       | 2.5        | 6    | 5.5   |
| Total                                    | 40      | 100.0      | 110  | 100.0 |
| Mean                                     | 40      | 45         |      |       |
| <i>Sex</i>                               | 40      | 27         | 110  | 73    |
| <i>Educational Level (years)</i>         |         |            |      |       |
| Ordinary level (OND)                     | 2       | 5.0        | 22   | 19.8  |
| Higher National Diploma (HND)            | 38      | 95.0       | 88   | 80.2  |
| Total                                    | 40      | 100.0      | 110  | 100.0 |
| Mean                                     | 13      | 15         |      |       |
| <i>Annual Income (₦)</i>                 |         |            |      |       |
| 270,000 – 300,000                        | 28      | 70         | 70   | 64.0  |
| 301,000 – 331,000                        | 12      | 30         | 34   | 30.6  |
| ≥332,000                                 | 0       | 00         | 6    | 5.4   |
| Total                                    | 40      | 100.0      | 110  | 100.0 |
| Mean                                     | 280,675 | 285,045.22 |      |       |
| <i>Extension Tenure (years)</i>          |         |            |      |       |
| 5-15                                     | 34      | 85.00      | 90   | 81.9  |
| 16-26                                    | 6       | 15.0       | 15   | 13.6  |
| >27                                      | 0       | 00.0       | 5    | 5.4   |
| Total                                    | 40      | 100.00     | 110  | 100.0 |
| Mean                                     | 11      | 13         |      |       |
| <i>No. of In-Service Training</i>        |         |            |      |       |
| No. in-service training                  | 22      | 55.0       | 51   | 46.4  |
| 1                                        | 14      | 35.0       | 44   | 39.6  |
| 2                                        | 4       | 10.0       | 15   | 13.5  |
| Total                                    | 40      | 100.0      | 110  | 100.0 |
| Mean                                     | 1       | 1          |      |       |
| <i>Number of Organization Membership</i> |         |            |      |       |
| 1                                        | 32      | 80         | 76   | 69.10 |
| 2                                        | 8       | 20         | 34   | 30.90 |
| Total                                    | 40      | 100.0      | 110  | 100.0 |
| Mean                                     | 1       | 1          |      |       |

In Table 2, results show that all the 24 competency statements were perceived as being moderately important to important by respondents. All the 24 competency statements were considered important by both female and male extension agents. Female agents considered commitment to extension work to be the competency of the greatest importance, ability to motivate farmers and work management, planning, organising and priority setting, as second and third respectively, whereas, ability to motivate farmers was considered to be the competency of the greatest importance by males. Similarly, spoken and verbal communication fluency and development of instructional materials were second and third respectively as rated by the male extension agents.

Majority of the extension agents perceived almost all the identified professional competen-

cies as important. All the competencies that are critical were perceived by the agents in transferring new agricultural technologies to farmers. However, some of the competencies were perceived to be moderately important. The rating of 2.50 or higher was taken as a significant level of importance for attention. This level of importance was arbitrarily set prior to the collection of the data in order to establish a point at which attention would be given to the items relative to future training. It is not surprising that ability to motivate farmers, spoken communication and fluency and development of instructional materials were rated high for the males and commitment to work, motivation of farmers and work management, planning, organising and priority setting were rated high in importance by females. A person cannot decide to accept any practice until he has become aware of it. One of the extension's functions is communication of agricultural innovation to help people recognize their felt needs by bringing research to them. Therefore, communication is central and crucial in every extension work and extension agents need high level of professionalism at all times.

This would not have been possible without the commitment of extension agents, willingness to give a lot of time and energy in their place of work. The fundamental of all extension work is the adoption of agricultural innovation by farmers bearing in mind that people differ in leaning by their capacities and interest. Extension agents on the final analysis help to motivate the farmers to action based on their needs through stimulation of their interest, desire, conviction, taking action and finally adoption of agricultural innovation for better living standard of the farmers. Atala et al. (1993) did similar work on professional competencies needed by extension agents in three Northern States of Nigeria and found all the competencies perceived to be important. Also, Martin et al. (1988) found all the competencies to be important in their work, teaching competencies needed by extension workers in transferring agricultural technologies to Malaysian farmers.

## DISCUSSION

In Table 3, results show a composite rating of the nine competency categories perceived needed by the agents. Female extension agents rated evaluation statement as the highest competency needed, followed by subject-matter expertise and

**Table 2: Competencies perceived to be important by village extension agents**

| S. No. | Competency (Item)                                            | Male agents |      |                  | Female agents |      |                  |
|--------|--------------------------------------------------------------|-------------|------|------------------|---------------|------|------------------|
|        |                                                              | Competency  |      |                  | Competency    |      |                  |
|        |                                                              | Mean        | SD   | Rank             | Mean          | SD   | Rank             |
|        | Ability to motivate farmers                                  | 3.89        | 0.31 | 1 <sup>st</sup>  | 3.93          | 0.27 | 2 <sup>nd</sup>  |
| i.     | Spoken and verbal communication fluency                      | 3.85        | 0.40 | 2 <sup>nd</sup>  | 3.83          | 0.45 | 6 <sup>th</sup>  |
| ii.    | Development of instructional materials                       | 3.83        | 0.38 | 3 <sup>rd</sup>  | 3.53          | 0.60 | 23 <sup>rd</sup> |
| iii.   | Subject-matter expertise                                     | 3.82        | 0.39 | 4 <sup>th</sup>  | 3.70          | 0.52 | 17 <sup>th</sup> |
| iv.    | Use non-formal teaching method                               | 3.80        | 0.42 | 5 <sup>th</sup>  | 3.65          | 0.53 | 21 <sup>st</sup> |
| v.     | Listening understanding and responding                       | 3.79        | 0.42 | 6 <sup>th</sup>  | 3.85          | 0.36 | 4 <sup>th</sup>  |
| vi.    | Evaluate result of an event or activity                      | 3.77        | 0.52 | 7 <sup>th</sup>  | 3.83          | 0.45 | 6 <sup>th</sup>  |
| vii.   | Develop a plan for professional development                  | 3.76        | 0.51 | 8 <sup>th</sup>  | 3.83          | 0.64 | 8 <sup>th</sup>  |
| viii.  | Interpret result findings from research stations             | 3.75        | 0.51 | 9 <sup>th</sup>  | 3.80          | 0.65 | 9 <sup>th</sup>  |
| ix.    | Presentation skills                                          | 3.75        | 0.55 | 10 <sup>th</sup> | 3.83          | 0.38 | 5 <sup>th</sup>  |
| x.     | Ability to lead                                              | 3.73        | 0.49 | 11 <sup>th</sup> | 3.75          | 0.49 | 11 <sup>th</sup> |
| xi.    | Prepare job description for staff                            | 3.73        | 0.56 | 12 <sup>th</sup> | 3.75          | 0.63 | 14 <sup>th</sup> |
| xii.   | Written communication ability                                | 3.65        | 0.57 | 13 <sup>th</sup> | 3.58          | 0.68 | 22 <sup>nd</sup> |
| xiii.  | Facilitating team work and cooperation                       | 3.62        | 0.66 | 14 <sup>th</sup> | 3.72          | 0.56 | 20 <sup>th</sup> |
| xiv.   | Utilize a calendar of event                                  | 3.61        | 0.73 | 15 <sup>th</sup> | 3.75          | 0.54 | 12 <sup>th</sup> |
| xv.    | Confidence in own ability                                    | 3.60        | 0.71 | 16 <sup>th</sup> | 3.50          | 0.55 | 24 <sup>th</sup> |
| xvi.   | Commitment to extension work                                 | 3.58        | 0.61 | 17 <sup>th</sup> | 3.95          | 0.22 | 1 <sup>st</sup>  |
| xvii.  | Employ good feedback techniques and teaching method          | 3.57        | 0.60 | 18 <sup>th</sup> | 3.70          | 0.52 | 17 <sup>th</sup> |
| xviii. | Work management, planning, organising and priorities setting | 3.54        | 0.82 | 19 <sup>th</sup> | 3.88          | 0.33 | 3 <sup>rd</sup>  |
| xix.   | Group formation                                              | 3.52        | 0.55 | 20 <sup>th</sup> | 3.70          | 0.52 | 17 <sup>th</sup> |
| xx.    | Follow a written programme of work                           | 3.44        | 0.72 | 21 <sup>st</sup> | 3.78          | 0.58 | 10 <sup>th</sup> |
| xxi.   | Problem solving                                              | 3.42        | 0.74 | 22 <sup>nd</sup> | 3.75          | 0.71 | 16 <sup>th</sup> |
| xxii.  | Analyse and Interpret results from questionnaires            | 3.31        | 0.60 | 23 <sup>rd</sup> | 3.75          | 0.63 | 14 <sup>th</sup> |
| xxiii. | Managing vision and purpose                                  | 3.23        | 0.67 | 24 <sup>th</sup> | 3.75          | 0.54 | 12 <sup>th</sup> |

Note: 4 = Most important; 3 = important; 2 = moderately important; 1 = least important.

communication statements as second and third respectively, whereas, the male agents rated subject-matter expertise as the competency statement, needed; followed by evaluation and personal qualities competency statement as second and third in that order. Incidentally, the least competency category needed by both the agents is the organizational effectiveness. It is not surprising, as village agents were not administrative staff but technical staff. Not only that, there is also a paradigm shift of training needs, which have historically focused on technical subject-matter for all agents, while shifts of competencies needed were found, extension agents believed that a strong work ethic and character trait such as personal effectiveness, developing others, rural sociology and leadership etc. if trained in them will bring the most success for agents in the future. The mean score of each competency area was used to determine the perceived differences in competency needed. It is not surprising that the female agents rated evaluation highest in the category and the male agents rated it as the second needed competency category. Ability to plan,

implement and evaluate a local programme is the basis of all extension work. This process involves the identification of needs, the involvement of people in the planning process and evaluation of each programme after implementation.

**Table 3: Composite mean rating of the nine competency categories perceived to be needed by village extensions agents**

| Competency                   | Female    |                 | Male      |                 |
|------------------------------|-----------|-----------------|-----------|-----------------|
|                              | Composite |                 | Composite |                 |
|                              | Mean      | Ranking         | Mean      | Ranking         |
| Evaluation                   | 3.95      | 1 <sup>st</sup> | 3.63      | 2 <sup>nd</sup> |
| Subject-matter expertise     | 3.87      | 2 <sup>nd</sup> | 3.72      | 1 <sup>st</sup> |
| Communication                | 3.69      | 3 <sup>rd</sup> | 3.59      | 4 <sup>th</sup> |
| Personal qualities           | 3.67      | 4 <sup>th</sup> | 3.60      | 3 <sup>rd</sup> |
| Personal effectiveness       | 3.59      | 5 <sup>th</sup> | 3.11      | 7 <sup>th</sup> |
| Developing others            | 3.13      | 6 <sup>th</sup> | 3.09      | 8 <sup>th</sup> |
| Rural sociology              | 3.00      | 7 <sup>th</sup> | 3.13      | 6 <sup>th</sup> |
| Leadership                   | 3.00      | 7 <sup>th</sup> | 3.43      | 5 <sup>th</sup> |
| Organizational effectiveness | 2.36      | 9 <sup>th</sup> | 2.07      | 9 <sup>th</sup> |

Extension competencies should be need based, prioritized, articulated and developed into

the training curriculum. It was, however, thought that, for competency of the extension agents, training and retraining of the agents is necessary to help in preventing time and resources wastage.

Extension, as a profession, requires professional competencies as well as high level of professional performance. Agents with abilities to perform effectively in the professional task in extension education are the best assurance that desired progress will take place. Extension workers most constantly are involved in continuous programme of personal development and professional improvement. While there is no single or easy solution to the problems of effective extension in many areas, there is no doubt that adequate training of extension staff would go a long way to remove many of the constraints that are known to militate against effective extension service in Benue State. There is no doubt that the effectiveness of extension service in Benue State can largely be improved though the improvement of the level of competence of the field extension staff through additional training. An evaluation study of county Extension Director Leadership training program reported that it made a significant impact on essential leadership competencies of participants (Jayaratne et al. 2010).

Similarly, Roberts et al. (2007) reported personality qualities were important competencies for agricultural teachers to be successful. Personality integrity, high levels of motivation and eagerness are important emotional competencies but seldom included in courses, workshop and seminars (Moore and Rudd 2005). According to Cochran (2009), extension professionals need to develop partnerships with their clients to build up trust to support their work. Strong and Harder (2009) recommended that agents plan their personal needs ahead of work events schedule to achieve stability between work and personal life. According to Radhakrishna and Martin (1999), program evaluation and research methods are important training needs for extension agents. In a related study by Strong and Harder (2009), extension agents' participation in a professional association can assist them in learning about the organizations promotions procedure and recognitions. The acquisition of competencies should be considered as an important part of the workers performance (Boyd 2003).

In another related study by (Lakal 2010), extension agents emphasized that managing stress, good work and personal ethics, self- motivation

and self- direction and integrity as the other important competencies needed to be successful in their job. It is also compatible with the findings of a study conducted with extension professionals in Arkansas that reported fairness, honesty and trust worthiness as the most valued competency qualities for extension professionals (Cooper and Graham 2001). Employee should be able to translate core competencies into practical applications.

Adequate training will no doubt improve the functional competency of the extension staff and enable them to educate and convince farmers to adopt improved farm practices that result from developments in agricultural technology and research. Farmers' acceptance or rejection of recommended innovation is of course, the final determinant of the success or failure of the State's agricultural extension programmes. Extension employees should possess the necessary competencies to anticipate and deliver quality educational programmes of relevance and importance to our farmers.

## CONCLUSION

Erroneously, there is a misconception that male agents are more knowledgeable, skilled or competent than female. Based on this study, men have their various training needs as much female extension agents. If female agents are exposed to training or systematic learning experience, they can perform alike and/or even better than male agents.

One of the major problems impeding the effectiveness of agricultural extension services is the low level of training of a large proportion of extension staff. Most extension staff lacks the knowledge and skills required to work in the complex and rapidly changing agricultural environment. Formation of a professional profile is assumed to help register the important competencies and educational training needs of the agents and also the evaluation of their proficiency for the development of a curriculum. Not only that, the difference in perceptions is suggested to be influenced by perceived role expectations and the organizational atmosphere in which the agents were found.

## RECOMMENDATIONS

Extension employees should possess the necessary competencies to anticipate and deliver

quality educational programs of relevance and importance to our farmers.

In order to meet the challenges posed by inadequate training of the extension staff as revealed by the research, the following recommendations are made.

- (1) Extension agents have a good understanding of the wide range of specific extension competencies required of them. However, they differed somewhat in their perception of the priorities of these competencies. The Benue State Agricultural and Rural Development Authority (BNARDA) should, therefore, prioritize these competencies for the extension agents and review such priorities periodically and regularly. Extension authorities should pay attention to the crucial competency categories rated highly to enhance the effectiveness and impact of extension work.
- (2) Needs assessment should be conducted in the Benue State Extension Service to determine the extent to which training in educational techniques and process is necessary.
- (3) Periodic review of realistic competencies and updating the felt-need competencies should be done for effectiveness of the next system.

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