

Assessment of the Sasakawa Africa Fund for Extension Education in Ghana

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Abstract

In sub-Saharan Africa approximately 125,000 extension workers hold either certificates or diplomas. Only about 25,000 hold degrees from universities. Many start their careers in extension with a weak understanding of agricultural science and the strategies to transfer education to farmers.

This study assessed the Sasakawa Africa Fund for Extension Education (SAFE) program regarding the perceived job competence of mid-career extension staff that completed the SAFE initiated BS agricultural extension degree at the University of Cape Coast, Ghana. Also assessed were the perceptions of extension staff supervisors regarding the job competence of their extension staff. University of Cape Coast extension faculty perceptions regarding the SAFE program was also investigated.

A descriptive research method was used. The study revealed that 42 extension staff and their supervisors gave a high ranking to program implementation, followed by a “good” ranking to program planning, maintaining professionalism, and teaching. Twenty-two extension staff assessed without their supervisors also ranked program implementation highest. These results suggest that extension staff and supervisors view program implementation and program planning competence to be of great significance to the extension service in Ghana as-well-as clientele served. Extension staff increased their level of confidence and understanding in applying various job requirements as a result of attending the SAFE BS extension degree program. University faculty participating in the study indicated the SAFE program had strengthened the department’s outreach initiative, adaptation of research, and teaching methods which resulted in a more diverse curriculum delivery mode. Faculty indicated an improved field experience for both faculty and extension staff.

Keywords: Africa, Extension Education, Professional Development

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Introduction

In Ghana, the extension staff-to-farmer ratio is estimated to be 1:1500 (Sraku-Lartey & Sam, 2003). This means that extension workers are often not able to meet the needs of farmers. In addition to the high staff-to-farmer ratio, there is inadequate training of extension personnel, and to a large extent, extension workers have very little impact on agricultural development (Sraku-Lartey & Sam, 2003). This finding supports the results of a study conducted by FAO (1990; as cited in Zinnah, Steele, & Mattocks, 1998) that found a number of African extension workers (56%) had the equivalent of a high school degree. This same FOA study estimated that the number of individuals that had active financial investments in agriculture and that received help from extension was one person in five. The ratio of extension workers to farmers was estimated to be about one extension worker for 2000 farmers.

Given these findings, it could be said that “professionals in agricultural extension constitute the least trained group of staff in most African agricultural organizations” (Zinnah, Steele, & Mattocks, 1998, p. 2). Their initial formal extension programming training was usually inadequate (basic post-secondary training). In addition, “where in-service training was provided, it was often ad hoc and not responsive to the changing nature of extension work” (Zinnah, et al., 1998, p. 2). Hence, most extension personnel lacked the knowledge and skills required to be effective when working in a complex and rapidly changing agricultural environment.

A study conducted by Zinnah, Steele, Carson, and Annor-Frempong, (2001) “revealed an urgent need for systemic change in the tertiary agricultural [educational] institutions in Ghana” (p. 6). The authors argued that “in order to facilitate systemic change in higher agricultural education in Ghana, clear vision and mission statements that cut across agriculture and rural development should be

articulated” (p. 6). Moreover the “curricula of the agricultural [education] institutions were observed to be mostly theoretical with very little time being devoted to practical training and the acquisition of off-campus occupational experience” (p. 6).

Sasakawa Africa Association confronts the challenge of irrelevant extension training in sub-Saharan countries through the Sasakawa Africa Fund for Extension Education (SAFE). Zinnah et al. (1998) described SAFE as a

...partnership between the Ministry of Agriculture, Sasakawa Africa Association (a non-governmental donor organization based in Japan), Winrock International Institute for Agricultural Development (a [nongovernmental] development agency based in the United States), and participating universities and colleges [i.e. University of Cape Coast in Ghana], Makerere University in Uganda, Sokoine University of Agriculture in Tanzania, Alemaya University of Agriculture in Ethiopia [as-well-as others]. (p. 2.)

Just as in other universities in Africa, the Cape Coast University in Ghana had only a “general agriculture” bachelor’s degree program before the intervention of SAFE in 1993. Therefore, anyone graduating with this degree would have only one tenth of their total required credits focusing on agricultural extension or extension related courses. Consistently, graduates found they were unprepared to work effectively in the ever-changing workplace (Zinnah et al., 1998).

In 1993, Sasakawa Africa Fund for Extension Education (SAFE) developed an initiative to renew the curricula at the University of Cape Coast. The purpose of the curriculum changes and subsequent training were to help mid-career extension workers. (Zinnah et al., 1998). The SAFE training program helped extension workers to reflect on the content of their jobs and what they were responsible for as professionals. The training program also

asked the learners to view leaning as a process in which they an important role and not limited to experts from the outside world (Zinnah et al., 1998). SAFE envisions the existence of a community of leaders comprised of course participants, the university, employers of university extension program graduates (i.e., NGOs, farmers, Ministry of Agriculture, etc) and other stakeholders the have a vested interest in the curricula (Zinnah et al., 1998).

The focus of SAFR is the professional development of mid-career extension staff. Typically these individuals work for the ministry of agriculture or are NGO's working in rural development or agriculture. With the modified program, extension staff can obtain a Bachelor of Science (BS) degree in agricultural extension. Experiences that extension professional posses become the foundation to learning in the formalized setting (Zinnah et al., 1998). The SAFE initiative utilizes experiential learning as a mainstay of the program through supervised experience/enterprise projects (SEPs) for the extension staff (Zinnah et al., 1998).

Theoretical Framework

This study builds on the hands-on approach to extension educational development and is based on the concept that experiences that are gained through life become the foundation upon which learning is constructed (Kolb, 1984). The problem solving approach used in SAFE Extension program as the mainstay of the discipline is very similar to Kolb's (1984) model which illustrates learning as four distinct phases

through which individuals transition: concrete experience, reflective observation, abstract conceptualization, and active experimentation. The SAFE program helps mid-career extension become reflective professionals. It enhances the professional's perception of leaning as a process that occurs over time and not limited to experts from outside the region.

Student enterprise/experience projects (SEPs) form the experiential learning approach in the SAFE program. After in-classroom learning activities, extension staff will spend six to eight months in the field to help solve problems similar to those in their immediate work environment. During the problem solving phase, extension educators will employ Kolb's model (concrete experience: knowledge/skills gained from the training; reflecting on previous problems and possible solutions based on observations; making an educated guess: abstract conceptualization; and, active experimentation of possible solutions to problems identified through the adoption of research findings.

The four quadrants of Kolb's (1984) model (Figure 1) depict learning phases where knowledge is gained through active personal experiences. Kolb explained that individuals gain knowledge from "the combination of grasping experience and transforming it" (p. 41). Thus knowledge is "transformed either through intention or extension and grasped either by comprehension or apprehension" (Andreasen & Wu, 1999, p. 72). New content is introduced through new and concrete experiences.

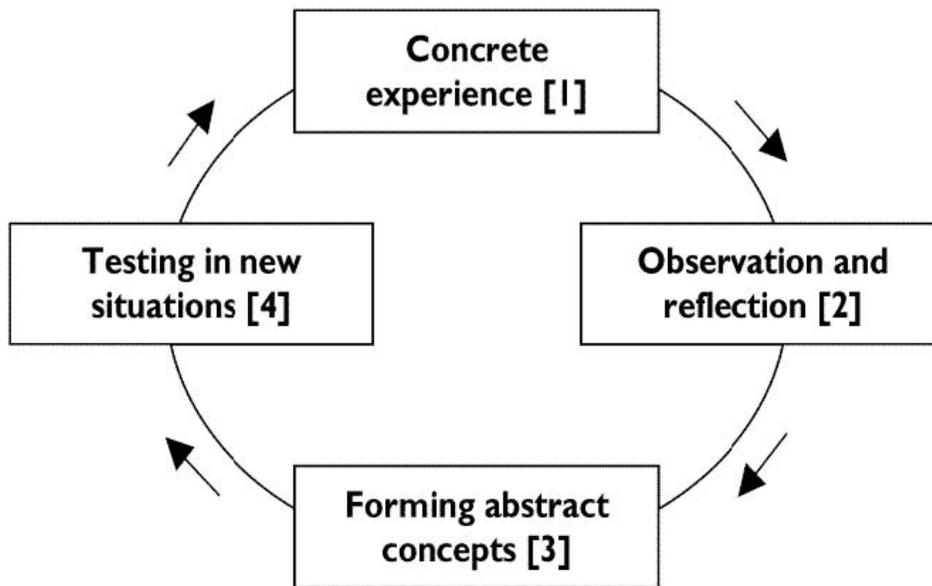


Figure 1. Kolb's Experiential Learning Model (Kolb, 1984).

In reflective observation, content is presented through a variety of approaches and strategies so that the learner can carefully observe new information. As the learner views a new phenomenon, they often reflect and look inward for meanings before moving to the next phase: abstract conceptualization. In the next phase, learners use deductive thinking to form generalizations. Generalizations are formed to make decisions and then to ultimately solve problems (Kolb, 1984).

As previously indicated, the experiential learning approach has been the backbone of the SAFE program since its inception in 1993. The SAFE program partners with the Ministry of Food and Agriculture and the University of Cape Coast to construct and deliver effective Extension education programs to empower extension professionals so that they can become critical thinkers that can effectively evaluate the impact of their work in the community (Zinnah et al., 1998).

Objectives

1. To assess the self-perceived job competency levels of extension staff that completed the SAFE initiated BS Agricultural Extension degree program of study.
2. To assess the perceptions of supervisors regarding the job competence of their extension staff.
3. To describe the perceptions of extension faculty in the Department of Agricultural Economics and Extension, University of Cape Coast, regarding the SAFE program.

Methodology

A descriptive research method was used in this study. Descriptive research can be a very useful strategy for creating a theoretical foundation, to assist with actions, or to help understand how to target actions to help resolve social problems (Ellis & Fouts, 1993). Using a survey instrument, data were collected from mid-career extension staff who completed the SAFE initiated BS Agricultural Extension program from 1996 to 2004 ($N = 208$) in the Department of Agricultural Economics and Extension, University of Cape Coast. Data

were also collected from the supervisors of extension staff and university extension faculty.

A sample of 64 individuals was selected using a snowball sampling method. Fourteen supervisors of the extension staff and five extension faculty in the Department of Agricultural Economics and Extension, University of Cape Coast participated in this study.

A snowball sampling method was appropriate for this study because the specific locations for most respondents were unknown. Thus, individuals participating in this study were being referred from initial respondents (Huck, 2004). The snowball sampling method is frequently used in network analysis which examines how people's networks influence the diffusion of information, and how a persons' work location can differentially affect their access to information, support, resources, etc. (Valente, 1995). In this method, individuals nominate others to participate in the study and these individuals also nominate still more people so that there is a broad inclusion of potential respondents.

The survey instrument contained eight sections: 1) Administration (22 items); 2) program planning (10 items); 3) teaching (19 items); 4) communication (19); 5) understanding human behavior (11 items); 6) maintaining professionalism (5 items); and, 8) evaluation (17 items). Three faculty and three graduate students at Penn State University reviewed the survey instrument for face and content validity. Four faculty members at the University of Cape Coast reviewed the instrument for further improvement. A scale ranging from 1 = very poor, to 5 = very good, was used for ease in data analysis

Post-hoc reliability was established. Cronbach's alpha (internal consistency) values ranged from a low of .80 (maintaining professionalism) to a high of .95 (administration, communication and evaluation). Overall, the instrument's section scores had an acceptable reliability

for respondents. Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 12.0. The descriptive statistics used were frequency distributions, percentages, means, and standard deviations.

Findings/Results

Findings based on the demographic characteristics of extension staff indicate that most were middle-aged ($M = 46.6$; $SD = 0.73$) which supports the goal of the SAFE Program's selection criteria: reaching out to mid-career extension staff at least 30 years of age. Although female extension staff participating in the study were about half the number of male extension staff, the number indicates more women are enrolling in the SAFE program at the University of Cape Coast. This study's findings also indicate the Ministry of Agriculture and NGOs working in agriculture and rural development in Ghana might be employing more women in extension staff positions, and as such, provide a greater gender distribution in their assigned areas of responsibilities.

Objective One: Perceptions of the Extension Staff Regarding Their Job Competence

Means for the summed scores for the 42 extension staff (those whose supervisors provided additional assessments) completing the SAFE BS degree were calculated and ranked with regard to their perceptions of job competence in terms of the previously mentioned eight levels. Results indicate the highest "Post-SAFE" competency mean score ($M = 4.5$) was for "program implementation." The lowest mean score ($M = 4.1$) was for "administration and evaluation." These findings indicate extension staff views their job competence as being between "good and very good."

The highest mean for the summated scores for "Pre-SAFE" competency sections was ($M = 2.9$) for "program implementation" and the lowest ($M = 2.2$) was for "evaluation." The low ratings (between poor and fair) as perceived by the extension staff and their supervisors are

indicative of the extension staff “Pre-SAFE” competency levels.

Regarding the 22 extension staff assessed without their supervisors, results show the highest mean for summated scores was ($M = 4.5$) for “program implementation” and the lowest mean was ($M = 4.2$) for “communication.” Thus, both groups of extension staff (with or without supervisor participation) ranked “program implementation” the highest. The high mean value for “program implementation” implies that the extension staff in Ghana participating in this study view “program implementation” to be of great significance to the success of extension programs in their areas of responsibility.

“Program implementation” was also ranked highest by extension staff supervisors ($M = 4.5$). This high ranking lends support to the findings in previous African studies conducted where professional competencies for extension staff were assessed (Owens, Zinnah, Annor-Frempong, & Apori, 2001; Zinnah et al., 1998).

The 42 supervised extension staff participating in this study ranked “program planning” second highest in importance regarding their job competence ($M = 4.4$). This finding was supported by the extension staff supervisors ($M = 4.4$). In general, both extension staff groups ranked the eight competency levels as “good” in terms of extension staff job competence after completing the SAFE BS extension program.

Objective Two: Assess the Perceptions of the Supervisors Regarding the Job Competence of Extension Staff

The findings indicate the supervisors of the 42 extension staff participating in this study rated the extension staff’s job competence as “good” for all eight competency levels. Extension staff supervisors and the extension staff ranked “program implementation” as the highest competency level. This implies that both

supervisors and extension staff have a clear understanding regarding the level of job competence required by extension staff. “Program planning” was ranked second by both supervisors and extension staff, followed by “maintaining professionalism” (third), and “teaching” (fourth).

The fifth highest ranked item was not the same for the two respondent groups. Supervisors ranked “administration” fifth, while extension staff ranked, “understanding human behavior” as the fifth item. One way to explain the dissimilarity found in the two groups is that extension staff might view the practice of “understanding human behavior” is of far greater significance when relating to their clientele as-well-as in maintaining effective teaching strategies. “Evaluation” was ranked last by the supervisors as-well-as the 42 extension staff. This implies supervisors and their extension staff might spend less time concentrating on the evaluation of their activities when compared to their sense of commitment, confidence, and respect for themselves which are typically bound by culture.

Objective Three: Describe the Perceptions of the Extension Faculty Regarding the SAFE Program

Extension faculty gave the SAFE program a rating of “very good” for “determine needs for clientele for extension program,” “involve the Ministry of Agriculture in program development;” and “using a variety of techniques to influence extension staff to adopt change.” The same “very good” rating was given to “facilitate student’s ability to access financial aid;” “help facilitate study-leave with extension staff employers;” “develop problem solving skills in the extension staff;” and, “the usefulness of the SAFE BS extension program.”

“Provide field projects for extension staff;” “present lectures with a practical component;” and “the future of the extension program” were rated between “good” and “very good.” “BS extension

curriculum document;” “developing leadership potential of the mid-career extension staff;” and, “managing work consistent with resources,” received the third highest rating. “Receiving external funding for the extension program” was rated fourth. However, it must be noted that financial support to the program provided by SAFE ended in 2002. The training program is now being sustained through the University of Cape Coast as-well-as the facilities that SAFE helped establish (such as the chalets or guest houses, and a restaurant).

The consistently high ratings for the SAFE program indicate the faculty in the Department of Agricultural Economics and Extension, University of Cape Coast, who participated in this study, were positive about the practices and principles inherent to the development of agricultural extension through the SAFE initiative in Ghana. They emphasized the usefulness of the SAFE program and view its future to be of great importance to the development of agriculture in Ghana.

Table 1

Summary of Section Item Means, Standard Deviations and Ranks of Job Competence of Extension Staff as Perceived by their Supervisors and Extension Staff Themselves

Competency Section	Extension Staff ^a (n = 42)				Supervisors' Rating (n = 14)				Extension Staff ^b (n = 22)			
	n	M*	SD	Rank	n	M*	SD	Rank	n	M*	SD	Rank
Program Implementation	10	4.58	0.53	(1)	10	4.54	0.48	(1)	10	4.56	0.55	(1)
Program Planning	10	4.44	0.60	(2)	10	4.41	0.57	(2)	10	4.35	0.69	(3)
Behavior	5	4.31	0.63	(3)	5	4.34	0.55	(3)	5	4.27	0.70	(5)
Maintaining Professionalism												
Teaching	19	4.30	0.64	(4)	19	4.25	0.48	(4)	19	4.27	0.72	(5)
Understanding Human Behavior	11	4.27	0.62	(5)	11	4.19	0.43	(6)	11	4.31	0.60	(4)
Administration	22	4.15	0.60	(7)	22	4.24	0.43	(5)	22	4.37	0.59	(2)
Communication	19	4.18	0.73	(6)	19	4.15	0.55	(7)	19	4.21	0.78	(8)
Evaluation	17	4.15	0.68	(7)	17	4.13	0.48	(8)	17	4.22	0.74	(7)

Note. ^a Extension staff that were assessed by their supervisors in addition to self assessment.

^b 2004 graduate extension staff that were not assessed by their supervisors.

*Mean values: 1 = very poor, 2 = poor, 3 = fair, 4 = good, and 5 = very good

Conclusions and Recommendations

The findings in this study led to the following conclusions and recommendations. The 42 extension staff and their supervisors indicated a high level of agreement regarding the perceived job competence of the extension staff. They both ranked “program implementation” as the highest competency level, followed by “program planning,” “maintaining professionalism,” and “teaching.” The recent

graduates (22 extension staff) also ranked “program implementation” highest. Generally, the entire extension staff who participated in this study rated their current job competence as being good. The implication is that extension staff increased their level of confidence and understanding of various job requirements as a result of participating in the SAFE BS extension degree program. This conclusion supports the findings of the Owens, Zinnah, Annor-

Frempong, and Apori, (2001) study regarding the value of tertiary education for mid-career level extension personnel.

Faculty who participated in this study emphasized the importance of the SAFE BS extension degree program as-well-as its bright future. This implies the SAFE program has strengthened the department's outreach initiative, adaptation of research, and teaching approach for a special group of students (mid-career extension staff) as-well-as other clientele groups which lead to a diverse curriculum delivery mode.

Recommendations for Further Research

An investigation of farmers' perceptions of extension staff job competence was not targeted in this study. It is important that future research include the input of farmers and other the extension program clients regarding the job competence of SAFE BS extension degree graduates. Without the research from farmers indicating improved transfer of knowledge, perceived value from extension personnel is only a starting point.

The findings indicate a relatively low rating of communication skills and teaching. Generally, "Post SAFE" extension staff ranked all competency levels "good," however, these individuals ranked communication skills near the bottom of the items. It is recommended that instruction related to the hands-on use of technology such as photographic equipment, video production, and other audio-visuals be strengthened during the training process. Ghana's Ministry of Food and Agriculture and NGOs working in agriculture and rural development should increase their support to facilitate the continuous application of these technical skills by extension staff completing the SAFE BS extension degree program.

Extension professional development individuals and organizations should evaluate the results of this study to determine if they could utilize this

information in future programs. Publications highlighting the instructional aspects of the SAFE BS extension degree program and job competence of extension staff should be distributed at various sub-Saharan African universities and colleges that are still in the process of strengthening their extension curricula. Such publications will provide useful information when others begin to implement country-specific needs assessments as-well-as help solicit donor agency support for professional development in extension.

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