

# Perceived Competencies of Agriculture Extension Workers in Extension Services Delivery in Northern Region of Ghana, Perspective from Literature

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## Abstract

This study is an exploration of literature on perceived competencies of workers in the agriculture industry. Extensive literature is reviewed on the topic and related to the need of people in the agriculture sector in northern region of Ghana to help facilitate increased production of agriculture produce. The study sought to identify the current level of competencies possess by extension workers in the northern region and which level of these competencies are used. Finding of other authors has been reviewed and compared to the current level of competencies possessed by extension workers. The importance of competencies are revealed as found by researchers in the field of competencies. A comparison of the literature to the Ghanaian situation is attempted, demonstration of made on how competencies can help facilitate the work of agricultural extension workers. Conclusions are drawn and key suggestions made to help guide policy makers and financing partners in agriculture to help formulation policies that will help build the needed competencies in people to enable them function well in the agriculture industry in Ghana. This study is based on literature on the subject. This paper also analyse the relevance of competencies in agriculture extension services delivery.

**Keywords:** Perceived competencies, Extension service, Abilities, Communication, Performance

## Introduction

The increasing changes in and demand for high quality and quantity of farm produce made on agricultural based institutions and farmers in the 21st century have had a considerable impact on roles and job performance of extension workers.

As a result, the traditional subsistence agriculture is gradually been replaced by market-oriented or commercial agriculture. This is probably due to factors including rapid economic growth in both developing and developed countries, introduction of new technologies, market expansion, market liberalization, increased demand for food, decreasing farming population as result of urbanization, liberalized and open economic policies, bilateral and multilateral economic agreements, developed infrastructure facilities in farming areas and government agricultural policies (Mahaliyanaarachchi and Bandara, 2006), as cited in Report on Agricultural extension approaches being implemented in Ghana.

Improvement in general agricultural production, productivity and sustainability will depend on farmers' willingness and access to new technology. Agricultural extension and advisory services play an important role in addressing this challenge. Agricultural extension services play a pivotal role in ensuring that the farmers have access to improved and proven technologies and that their concerns and needs are properly addressed by relevant service providers.

Agricultural extension contributes to improving the welfare of farmers and other people living in rural areas as extension advisory services and programmes forges to strengthen the farmer's capacity to innovate by providing access to knowledge and information. However, the role of extension today goes beyond technology transfer to facilitation; beyond training to learning, and includes assisting farmer to form groups, dealing with marketing issues, addressing public interest issues in rural areas such as resource conservation, health, monitoring of food security and agricultural production, food safety, nutrition, family education, and youth development and partnering with a broad range of service providers and other agencies (USAID, 2002).

This has led to increasing emphasis on the development of core competencies necessary for the extension workers to perform at maximum.

Agricultural extension workers are personnel who are responsible for meeting the goals of extension system. However, there have been less data on the roles and performance of extension workers in the country, even though there are sporadic studies on criticism that extension was not being able to perform the necessary changes in the rural community (Sallam and Akram, 2005). Realising this situation, it is very critical to know the competencies of extension workers and how these competencies influence their performance. Furthermore, in the contexts of agricultural extension; most international studies generally focus on evaluation of extension system and methodology rather than the extension personnel competencies. For example, economic evaluation of the performance of extension system (Bindlish and Evenson 1993), economic impact of extension system of agriculture extension (Brikhaeuser 1991) and measuring performance indicators of paid-extension system (Dinar

and Keynan 1998). However, it is rarely found a research that focusing on the aspects of extension workers' competencies and how those competencies are use in extension service delivery so as to help foster rural development.

### **Statement of the problem**

The effectiveness of an Extension organization is determined by the ability of extension agents to design, deliver, and evaluate effective educational programs, because they are directly serving the needs of the people. Their ability to perform extension tasks is a function of their job competencies. To Seevers et al (2007), future extension professionals need to be more skillful and futuristic to serve the needs of diverse audience. Extension staff 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 organisation in today's technological environment. According to Swanson (1996), high value should be placed on core competencies in business and industry, primarily referring to their knowledge and expertise in these fields. To be a successful extension staff 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; Stone and Coppernoll, 2004; Reynolds, 1993; Gonzalez, 1982).

Davis and Verma (1993) asserted that studies concerning job performance evaluation in extension organisation contexts are still limited. There is a strong necessity to determine further the relationships between the qualities of agricultural extension staff competencies in human development learning, leadership development, communication methods, extension program planning, and extension program implementation, extension program evaluation, as well as organizational commitment and extension workers' performance.

In most global literature, several studies in agricultural extension contexts focus on evaluating the effectiveness of extension organisations from economical prospective. For example Dinar et al. (2007) focused on assessing the impact of agriculture extension on farm production, farmers' adoption rate of the new technology disseminated by extension workers.

In most third world economies agricultural extension organizations, there is a lack of understanding of extension personnel performance. There should be attention to the competencies of extension workers; identification of competencies levels perceived and possessed, mechanisms for improving extension service delivery; and the reinforcement of competencies possessed by extension staff. McCaslin and Mwangi (1994) further emphasised that continuous and accurate staff evaluation is essential in improving agricultural extension workers' performance and productivity. As a result, it is necessary to investigate competencies of extension staff and how that leads to better delivery of extension services for a sustainable rural development.

### **Objectives of this study**

The primary objective of this study is to determine the current level of perceived competencies possessed by extension staff in the Northern Region.

Specifically, the study aims at achieving the following objectives;

- (a) examine the role expected of the agricultural extension workers to carry out his/her duties successfully,(b) identify the areas where competency is considered important in extension service delivery,
- (c) identify the gap between the competencies level considered important and the level possessed by the extension staff in the northern region,
- (d) identify needed new competencies of extension staff in modern day extension service delivery and,
- (e) determine how perceived competencies contributes to job performance and satisfaction of the extension staff.

### **Significance of the study**

This study is based on literature. It seeks to outline competencies relevant to the need of agriculture extension agents in carrying out their assigned duties. This will aid them strive to acquire such competencies. It is also guide extension managers and trainers in their effort to facilitate and direct extension agents knowledge acquisition effort.

### **Methodology**

This is purely a theoretical investigation base on published literature. Secondary data will be used as the main source of information for this paper. Intensive literature will be reviewed. This will form the basis by which the researcher will critique existing literature and come out with refined views that will be seen as contribution to knowledge.

### **Literature Review**

This part of the study looks at existing literature on competencies, extension service and extension workers, and competencies needed by extension workers to perform excellently. This will be followed by a meta analysis of

research findings on competencies deemed necessary for agricultural extension workers.

### **Competencies**

“Competency” is a skill, a personal characteristic or a motive demonstrated by various behaviors which contribute to outstanding performance in a job. Generally, competency is the quality of being adequately or well qualified, having the ability to perform a job (Cernucca & Dima et al. 2007). Competencies of staff lead to effectiveness which is a product of an organisation ability to attain and efficiently use existing resources, (particularly human resources) to achieve its goals. Focusing on competencies will aid any organisation to outline the responsibilities, knowledge, and skills required for positions to their current employees. Competence refers to a person’s underlying characteristics that are causally related to job performance (Boyatzis 1982). Competence is defined in the context of particular *knowledge, traits, skills, and abilities*. Knowledge involves understanding facts and procedures. Traits are personality characteristics (e.g., self-control, self-confidence) that predispose a person to behave or respond in a certain way. Skill is the capacity to perform specific actions: a person’s skill is a function of both knowledge and the particular strategies used to apply knowledge. Abilities are the attributes that a person has inherited or acquired through previous experience and brings to a new task (Landy 1985): they are more fundamental and stable than knowledge and skills (Fleishman and Bartlett 1969). Competence can be defined as the ability to perform a specific task in a manner that yields desirable outcomes. To Lane and Ross (1998), competence is the ability to apply knowledge, skills, and abilities successfully to new situations as well as to familiar tasks for which prescribed standards exist. It is traditionally viewed that the development of competencies was based on job responsibilities. However, to Langdon and Marrelli (2002), it is more significant to generate competencies based on the needed outcomes from the job. Stone (1997) described competencies as the application of knowledge, technical skills, and personal characteristics that are designed around the abilities individuals and groups need to give effective job performance and use in making human resource decisions.

Competence (1) is a physical or intellectual ability, skill or both; (2) is a performance capacity to do as well as to know; (3) is carried out under standardized conditions; (4) is judged by some level or standard of performance as “adequate,” “sufficient,” “proper,” “suitable” or “qualified”; (5) can be improved; (6) draws upon an underlying complex ability; and (7) needs to be observed in real-life situations (Shavelson, 2010).

The above definitions provide insight into what one should expect upon hearing the term. Operationalising this concept, *competencies can refer to a person’s general knowledge and abilities used to carry out both specified and unspecified tasks leading to the satisfaction of all stakeholders’ current and future desired standards.*

### **Agricultural Extension Service**

Agricultural extension as a philosophy defies one definition, and there are many approaches to agricultural extension the world over. Agricultural extension can be defined as the entire set of organizations that support and facilitate people engaged in agricultural production to solve problems and to obtain information, skills, and technologies to improve their livelihoods and well-being, Birner et al, (2006) as stated in Davis, (2008). Agricultural extension aims at providing farmers with necessary education, skills and technical information to enable them to make effective farm management decisions to enhance their daily practices. An effective extension service is therefore an essential factor for the accelerated development of agriculture in developing economies (Oyebanji, 1994). This clearly calls for some high level competencies which the extension worker must possess.

The term agricultural extension is a professional communication intervention deployed by organisations to disseminate agriculture knowledge and technologies to rural communities. Extension has a long history, based on adult education, communication science, community development, rural development, international development, and has strong linkages with agriculture research and practice (Karbasioun et al., 2007). According to Van den Ban and Hawkins (1996) agriculture extension is a public service for HRD of workers in agribusiness sector, including farmers. However, the function of agricultural extension is not only seen as vehicle for spreading scientific and technical progress and technology transfer. The agricultural extension, therefore, is a broader concept which emphasized implementation of projects, delivery of knowledge and information. The system is also an avenue for mutual interaction and opportunity that help people to develop solutions to their problems. Extension then is much related to a leadership function in the community. So, an extension worker is not simply seen as a technical innovation motivator, but is gone beyond a human resource development leader to help in institution building and mobilization of resources in the community (Khalil, Ismail, Suandi and Silong 2008). This explains why the competencies of extension worker cannot be given minor attention.

These duties and responsibilities outlined above is a clear indication that the agricultural extension worker needs diverse competencies to enable him/her execute the tasks assigned, bearing in mind that the ultimate goal is to deliver satisfactorily to aid rural development.

Extension work is realised in application of several methods: individual, group and mass extension methods (Živković, Jelić and Ajić 2009).

- i. Individual extension methods represent intensive method of extension work. They are applied in form of house visits and advisory discussions, talks (visit to the farm, field, etc.), practical demonstration methods, farmer going to the extension office, etc.
- ii. Group extension methods provide relatively broad spectrum of influences on beneficiaries of extension services. Types of group extension methods are diverse: expert lectures, group discussions, “field days”, and group extension work in training centres for villagers and farmers, working groups for farmers and so called “extension clubs”, different types of demonstrations of experimental results and new work techniques, expert excursions and trips, mutual (informative) meetings, etc. Group extension work can be realised in groups formed with the idea to improve extension work (for instance farmer groups, extension clubs, etc.) or work with producer associations (producer associations, cooperatives, etc.).
- iii. Extension work by way of mass media includes use of television and radio stations, expert brochures, expert articles in newspapers, leaflets, internet, etc. Each of the new media has its own specific traits and depending on these traits they can be used for informing and educating potentially large groups of agricultural producers. Extension agents are obligated to use all types of mass media using clear extension forms (short, clear, unambiguous and expert presentations, work instructions and solutions production problems, etc.).

Cochran (2009) developed the Ohio State University Extension Competency Model, which represents a set of core competencies for any job in Extension, now and in the future. It recognizes 14 core competencies: (a) communication, (b) continuous learning, (c) customer service, (d) diversity, (e) flexibility and change, (f) interpersonal relationships, (g) knowledge of Extension, (h) professionalism, (i) resource management, (j) self-direction, (k) teamwork and leadership, (l) technology adoption and application, (m) thinking and problem-solving, and (n) understanding stakeholders and communities. Extension’s human resource departments can use performance standards to assess knowledge gaps for planning professional development programs.

To Langdon and Whiteside (2004), the general definition of competency includes only skills, knowledge, and attributes. But Bartram, Robertson, and Callinan, (2002) defined competencies as “sets of behaviors that are instrumental in the delivery of desired results or outcomes”. Based on this definition, the Great Eight Competencies of work performance were developed to promote effectiveness in 21st century organizations. The Great Eight Competencies are (a) leading and deciding, (b) supporting and cooperating, (c) interacting and presenting, (d) analyzing and interpreting, (e) creating and conceptualizing, (f) adapting and coping, (g) organizing and executing, and (h) enterprising and performing (Bartram et al, 2002). However, Klein (1996) argued that a competency can also be considered behavioral when it involves only visible behaviors without any judgment, theory, or explanation.

McLagan (1997) suggested that competencies can be viewed in six different ways: (a) job tasks, (b) results of work efforts, (c) outputs, (d) knowledge, skills, and attributes, (e) qualities that describe superior performers, and (f) bundles of attributes. With so many different ideas of what competency stands for, it is important for organizations to define the right competency for each role to obtain the results they are looking for, while Stone and Bieber (1997) concluded that linking individual competencies that lead to superior performance to the strategic directions of the organization will help us anticipate the new knowledge, skills and behaviors needed in the future in order to respond to complex problems faced by our clientele.

### **Competencies needed by agricultural extension workers**

Demographics changes, evolving technologies, and the global market create new challenges for Extension. Extension needs to proactively recognise when change is necessary, respond, manage it effectively, and adapt instantly. In the Extension Committee on Organization and Policy (ECOP) “Vision for the 21st Century” report (2002), one of the recommendations for Extension was to meet those changing needs “by building an organization that empowers, encourages, and supports shared leadership and proactive decision-making by individuals who have the most relevant information and who operate at a level close to the issues” (p. 6)., cited in Lakai (2010).

In their study, Rigyal and Wongsamun (2011) observed that the delivery of extension services to farmers in Bhutan came under critical review from Ministry of Agriculture (MoA) over questions of efficiency and technical competency possessed by the extension agents. Tshering, Rai and Rigyal (2007) also observed the critique of MoA where, among many others, lack of technical competency by extension agents resulted in the problems of extension non-performance and ineffective delivery of services. Boyd (2003) stated that successful extensionists should have strong technical knowledge. To Belay and Abebaw (2004), higher rates of technology adoption by clients are achieved when extensionists possess adequate technical knowledge. Easter, (1985) contends that one of the weaknesses in past approaches in preparing extension personnel in developing countries has been the inability to focus on the development of professional competencies, while Raad, Yoder and



Diamond, (1994) posit that the extension agents in developing countries should possess professional competence in the areas of administration, program planning and execution, evaluation, communications, teaching and extension methods and understanding human behavior. However, lack of a proper balance between technical and professional competencies in staff has been identified as a common problem in the extension services of developing countries (Khan, Ali and Hussain, 2004; Easter, 1985; Maunder, 1972; Bradfield, 1966).

The above findings cannot be isolated from the Ghanaian situation. Extension in Ghana came under serious criticism due to the fact that most extension workers were lacking the needed competencies to convince farmers to adopt the new technologies introduced.

An extension worker who has to assume a variety of roles amongst the farmers must fulfill a number of different roles and therefore must prove to possess competencies in many diverse areas. Pickett, (1998), indicated that the identification of key competencies provides for individual and organizational growth, and helps the organization meet future demands. In almost all competency studies of extension workers in most developing countries, the findings indicated the need for further strengthening of professional competencies in almost all areas of competencies identified (Hussain, 2004; Khan et al., 2004; Androulidakis and Siados, 2003; Muhammad et al., 1995; Raad, Yoder and Diamond, 1994; and Randavay and Vaughn, 1991). Once the extension worker is in the field s/he is expected to perform an assorted number of tasks, but Androulidakis and Siados (2003) pointed out that extension agents' competence should be in accordance with the task areas in which they will be assigned to operate in order to perform successfully. The Secretary's Commission on Achieving Necessary Skills (SCANS) (1991, i) report identified a five-competency framework that built on a three-part set of foundation skills and personal qualities for success in the modern workplace. Individuals in the workplace should be able to productively use: 1) resources, 2) interpersonal skills, 3) information, 4) systems, and 5) technology. These competencies require an underpinning of:

- a) the basic skills of reading, writing, arithmetic, speaking, and listening;
- b) the thinking skills of solving problems and reasoning (among others); and
- c) the personal qualities of individual responsibility, sociability, self-management, self-esteem, and integrity.

#### **Discussion of findings on competencies necessary for agricultural extension workers**

Rigyal and Wongsamun (2011) in their study 'perceived professional competency level and job performance of block-level extension agents in Bhutan' identified 40 competencies needed by extension workers, and further group these competencies into 7 broad categories; - knowledge, organisation and planning, communication, analysis and diagnosis, leadership qualities, initiative and personal qualities. The general competencies they identified are summarized in the table below:

Out of the total of 40 competencies, the most important competencies they found in the various categories of knowledge, organisation and planning, communication, analysis and diagnosis, leadership qualities, initiative and personal qualities, included: good understanding about block, people and culture (M=4.53); design and conduct farmers' training (M=4.47); ability to convey extension messages effectively (M=4.58); find ways to encourage farmers to adopt innovations (M=4.37); possess self-motivation, determination and dedication (M=4.44); implement extension activities without being supervised (M=4.41); and maintain relationship with farmers (M=4.80).

It is therefore difficult to say that one particular competency (out of the seven) is important than the other. The findings made by Rigyal and wongsamun (2011) indicated that in each of the competencies categories, one each was rated high and very relevant than the rest within these categories.

Among these competencies, maintaining relationship with farmers scored the highest mean of 4.80. This is an indicative of the value people (especially farmers) place on relationship building. It is also an indication that when extension workers are on assignment, they should place much interest on relating well with the farmers if they are to make an impact in developing people and communities through the extension services. Rigyal and Wongsamun (2011) concluded that there is evidence that extension agents rated almost all competencies having high level of importance and that most of the competencies they considered important were also possessed by them. They found that competencies that extension agents considered important, they learned to acquire them.

In another study, 'an analysis of the perceived competencies of CEOs in Public park and recreation agencies', Hurd and McLean (2004) developed a competency framework to demonstrate the competencies the CEOs needs to manage public parks. Their competency framework has three levels of specificity. The top level is represented by six general competency categories that are broad in nature. "The six categories that emerged included (a) business acumen, (b) communications and marketing, (c) community relations, (d) leadership and management, (e) planning and evaluation, and (f) professional practice" (Hurd and McLean, 2004, pp. 102). At level two each competency category had primary competency areas which provided a richer description of general competency categories. This level served as a sub-category providing more specificity to the general competency categories. In level three there were competencies specific to the primary competency area. There are a total of 72 specific competencies across the six general competency categories.

Hurd and McLean (2004) found that the absence of competencies limits the effectiveness of the individual and the organisation as a whole.

This can be implied that when agricultural extension workers lacks competencies, the entire agriculture sector suffers, and the long run effect is that rural or community development will be hampered, and the living standard of people in general will be low. Hurd and McLean indicated that when CEOs develop competencies within themselves, it improves the ability of the entire organisation to function and respond to the demands of the environment.

### **How competencies facilitates extension workers' work**

When the manager of extension workers, extension workers, and all stakeholders take steps to ensure that agricultural extension workers acquire the needed competencies, they are in a position to be more effective and efficient in the execution of their tasks and responsibilities. Examples include the under listed:

- Effective dissemination of agricultural technologies
- Anticipate new knowledge
- Harnessing local knowledge into policy, programme design and implementation
- Good understanding about block, people and culture
- Design and conduct farmers' training
- Ability to convey extension messages effectively
- Find ways to encourage farmers to adopt innovations
- Possess self-motivation, determination and dedication
- Implement extension activities without being supervised
- Maintain relationship with farmers

These conforms with the finds of *Rigyal, and Wongsamum, (2011)*.

### **Conclusions**

Competency, competencies, competency models, and competencies based training are all Humpty Dumpty words meaning only what the definer want them to mean. The problem comes not from malice, stupidity or marketing avarice, but instead from some basic procedural and philosophical differences among those racing to define and develop the concept and to set the model for the way the rest of us will use competencies in our day-to-day training (Lakai, 2010).

The competencies required of agricultural extension workers are pervasive, universal, and variable. Whether in the agricultural extension, health, business, etc, competencies are considered important. However, the degree of application of these competencies will vary in relation to the area of usage. However, the meta analysis showed that competencies in the area of interpersonal relations, communication, personal qualities and technical knowledge dominates in most competencies frameworks and in the competencies literature.

### **Recommendations**

The discussions of literature revealed that agricultural extension workers truly need to be very competent technically and professionally in-so-far-as their line of duties and functions are concern.

These discussions empowered the researcher to raise some recommendations as followed:

- i. Agricultural extension workers should be clear of their roles and duties from the onset.
- ii. Based on the area of specialisation, each extension worker should be aware of the competencies expected of him/her.
- iii. Professional competencies should be developed from the in-service level rather than the pre-service level. All stakeholders in extension service delivery should emphasis on-the-job training and continuing educational programmes for extension personnel to help addresses the specific professional needs of extension workers.
- iv. Extension workers should be given an opportunity to plan their own competencies requirements and decide how to achieve them.

### **Suggestion for further research**

The researcher wish to suggest a further comprehensive research that involve field survey and data gathering to identify how these competencies manifest on the job of agricultural extension workers.

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