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A Professional Competency Development Model: Implications for Extension Educators

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Keywords

Extension, Educational processes, Professional development

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Abstract

Professional development refers to continuing education designed to enhance competencies, skills, and knowledge. There is a need for a professional development model based on the educational processes used by educators of adults. A professional competency development model was constructed from a study grounded on four educational process areas in Extension. In this study, 441 randomly selected Extension educators in the North Central Region of the United States participated through an online survey. The proposed model has implications for designing professional competency development programs in the areas of needs assessment/program development, teaching and learning methods, delivery strategies, and evaluation methods. It also indicates the best time and place for Extension educators to develop the competencies and suggests a mechanism to continuously identify the knowledge and skills needed to obtain the best results. This model could be used to develop educational programs in a variety of national and international settings.

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Introduction and Review of Literature

Professional development is a commonly used term in the publications of educational institutions (Komives & Woodard, 1996). In the literature, the terms "in-service development," "staff development," "in-service education," "staff training," and "professional development" are frequently used interchangeably. Truitt (1969) defined in-service development as "all activities used to engage an employee to improve the skills, techniques, and knowledge that will enable him/her to become an effective agent of education" (p. 2). Beeler (1977) stated that the term staff development "generally refers to in-service continuing education, or staff training, designed to enhance the competencies, skills, and knowledge of individuals and to enable them to provide better service to their clientele" (p. 38).

The term "professional development" is used in the Cooperative Extension Service to refer to the broad array of learning experiences that builds an Extension educator's capacity as a professional, enhances his/her ability to respond to local needs, or assists in meeting long-term career goals (University of Kentucky, 2008). Mincemoyer and Kelsey (1999) defined professional development as education delivered to Extension educators in a structured setting that enables them to become professionally competent. Sims (1998) stated that professional development is a continual learning process which can be designed to keep Extension educators current in their fields and to anticipate the future needs of the organization and clientele. McKenzie (1991) stated that professional development is important because it can make a significant difference in the performance of educators and ultimately in the performance of their clientele.

Extension enables its clients to meet their educational needs and to solve problems. Extension educators identify community needs, develop educational programs, and involve people in learning activities. Over the years, the needs of the communities have changed with technical advancements and changing social and environmental situations (Morse, Brown, & Warning, 2006). Given these changes, Extension must sharpen its focus and communication skills (Stone & Bieber, 1997). Stone and Coppernoll (2004) stated that the success of Extension depends on educators' technical expertise, educational processes, and communication skills.

According to Seevers, Graham, and Conklin (2007), Extension educators are mainly hired based on their technical expertise rather than their abilities to utilize educational processes for successful program planning and implementation. Dromgoole (2007) stated that program excellence in the Cooperative Extension Service is contingent on an educator's ability to identify and prioritize issues, develop and implement educational programs, evaluate outcomes, and utilize evaluation results to redirect future planning. Cooper and Graham (2001) stated that future success will depend on the capacity of Extension to retain qualified educators with the abilities to adopt and adapt educational processes for appropriate program development and delivery. Therefore, it is important for educators to continuously develop professional competencies to be effective in their jobs and to be successful agents of change (Kutilek, Gunderson, & Conklin, 2002; Watermolen, Andrews, & Wade, 2009).

Stone and Bieber (1997) stated that competency development focuses on areas in which an individual or a work group can demonstrate excellent performance and link these areas to the Extension organization's strategic direction. They emphasized Extension's need for a competency development model and claimed that such a model could redefine Extension's roles in future education.

The Extension Committee on Organization and Policy report stated that Extension lacks strong professional development programs to help its staff stay current in the face of changing situations (ECOP, 2005). Businesses and agencies worldwide are seeking to apply effective professional development programs for staff competency, but they are struggling with the implementation and institutionalization of such programs into day-to-day practice (Fenwick, 2003). Bryan and Schwartz (1998) stated that although the importance and needs for staff development are widely accepted, it has always been a challenge for organizations to accomplish it. We argue that Extension needs a framework or model to design a strategic professional competency development plan and subsequently needs to develop programs that will accomplish that plan.

Extension is the largest non-formal adult education provider for rural populations in the United States and adult education is its principal role (Rivera, 1998). Therefore, using appropriate adult learning and teaching processes is essential (Franz, Garst, Baughman, Smith, & Peters, 2009). King and Lawler (2003) stated that as the world is changing around us, there are challenges ahead to shape the professional development programs needed for educators of adults. However, little attention is being paid to the learning needs of the educators themselves.

According to Lawler and King (2003), because external stakeholders demand more accountability from educational organizations, a professional competency development model must be constructed to identify strengths and weaknesses in the professional development programs. Lawler and King further stated that such models are lacking in professional development programs. They claimed that although there were many models of good practice for program planning, training and development, and adult education, there were few that address the best practices of professional developers working with educators of adults.

A professional competency development model constructed from this study attempts to provide Extension with guidelines for developing a proactive professional development system. Kutilek et al. (2002) stated that maximizing Extension educators' career potential and organizational effectiveness depends largely upon a systematic approach to professional development. The proposed professional competency development model depicted in Figure 1 is grounded in the four educational process areas identified as important for Extension educators by the North Central Region–158 Committee on Adult Education in Agriculture (Martin, 1991). These four areas are the following: needs assessment/ program development, teaching and learning methods, delivery strategies, and evaluation methods. In 2006, the Excellence in Extension Task Force and the Work Group of the Extension Committee on Organization and Policy (ECOP) confirmed Extension's need for these four areas to plan and implement quality educational programs. The National Research Agenda for Agricultural Education and Communication (2007–2010) also identified these four areas as the important national research priorities for agricultural education and communication (Osborne, 2005).

Martin (1991) stated that Extension educators in all disciplines must develop competencies related to these four educational process areas in order to perform their jobs effectively. Studies were conducted to identify the training needs for Extension educators as early as 1920 by Crosby and as recently as 2010 by Schwarz and Gibson. After reviewing the literature, we found that Extension in the North Central Region lacked a comprehensive assessment of the competencies related to the four educational process areas.

Purpose and Objectives

The purpose of this study was to determine the importance of competencies related to the selected four educational process areas as perceived by Extension educators in the North Central Region of the United States and to identify when these competencies should be learned. One of the objectives was to develop a professional competency development model utilizing the findings from the study. This article is a part of a larger study; therefore, it only presents and discusses a professional competency development model and the implications of such a model for Extension and related agencies.

Methods and Procedures

The researchers conducted a study using a survey research design, and developed a model from the findings. The target population for the study consisted of Extension educators working in the 12 states of the North Central Region from which 811 samples were selected randomly. The questionnaire was e-mailed to participants using Survey-Monkey. A total of 441 useable responses were collected, generating a final response rate of 55%.

The data-collection instrument was a closed-form questionnaire containing 42 professional competencies in the selected four educational process areas. A panel of four experts reviewed the instrument for face, content, and construct validity. The panel identified these 42 competencies as a set of procedures for program development, delivery, learning, and evaluation of educational activities in Extension.

A pilot study was conducted to establish the reliability of the instrument. Reliability coefficients (Cronbach's alpha) for the competencies were as follows: .81 needs assessment/program development; .83 teaching and learning methods; .74 delivery strategies; and .71 evaluation methods. According to George and Mallery (2003), a Cronbach's alpha ≥ 0.7 is appropriate to conduct a study. To determine the importance of the competencies, respondents' perceptions were measured on a five-point Likert-type scale ranging from 1-being very low importance to 5- being very high importance. The best setting in which to learn each competency was selected from three different categories: graduate programs, on the job, and in-service programs. The questionnaire also requested that respondents suggest additional competencies apart from the professional competencies included in the questionnaire.

Means, frequencies, percentages, and standard deviations were computed from the data to determine the importance of competencies and the best settings in which to learn them. From the findings, a professional development model was constructed to implement the educational processes in the Extension system in the North Central Region.

Results and Discussion

Extension serves a variety of audiences, approaching them with a variety of programs. It has a multifaceted organizational structure; implements educational programs funded by multiple levels of government; and serves rural, urban, and peri-urban audiences ranging from youth to adults of various ages and backgrounds. Therefore, competency, in the sphere of Extension work, can be a difficult concept to assess.

In designing a professional competency development model for Extension educators, the authors were not, of course, starting from scratch because they had a considerable amount of data on competencies related to the educational processes from the findings of this study. Apart from that the authors had suggestions from the respondents for additional competencies that they perceived as important for Extension educators in the North Central Region.

The authors aimed to produce a professional development framework for Extension that would bring together the coherent elements of the educational processes into a single holistic model. The model described in this section attempts to unify the four educational processes that are the key features in planning, implementing, delivering, and evaluating Extension's educational programs. The proposed model, its features, and implications are described in the following paragraphs.

The purpose of the proposed professional competency development model is to contribute to the professional growth and development of Extension educators in the North Central Region of the United States. One of the objectives of this model is to increase the levels of efficiency and productivity of the Extension educators' in the area of four educational processes.

The model portrayed in Figure 1 consists of 42 competencies categorized under the four educational process areas: 11 competencies under needs assessment/program development, 11 competencies under teaching and learning methods, 10 competencies under delivery strategies, and 10 competencies under evaluation methods. The findings revealed that respondents perceived 81% of these competencies as highly important and the remaining items as moderately important.

In the model, each educational process area with required competencies is represented by a separate box. One of the important characteristics of this model is that it clearly depicts the time and/or setting in which to develop each of the competencies as reported by the respondents such as graduate program, on the job, or in an in-service training program. Roberts (2007) stated that based on their experiences in the work place employees do not prefer the same settings in which to develop professional competencies.

Professional development programs for adult educators work best if opportunities for acquiring competencies are provided through formal education, conferences, workshops, trainings, and other means (Merriam, Caffarella, & Baumgartner, 2007; Seevers et al., 2007).

The competencies in the area of "needs assessment/program development" are presented in Figure 1 in the box at the top in the left corner of the model. According to the model, the skills needed to conduct socioeconomic and cultural situational analysis of a community are best learned in graduate programs. The skills needed to use various committees (e.g., advisory committees) to identify clients' problems, set priorities and goals, and develop an appropriate plan to meet the needs of the communities are best learned on the job. Similarly, the model suggests that the best settings for Extension professionals in which to develop the competencies required to identify program outcomes and long-term impacts as well as to use a logic model to demonstrate program development and implementation processes are in-service programs.

The competencies presented in the box in the middle left of Figure 1 are related to the educational process area of "teaching and learning methods". This box indicates that graduate programs are the best settings in which to learn the principles of learning, skills needed to identify the learning styles of clientele and factors that influence their learning, and the skills needed to use a learner-centered approach in Extension. The competencies required for matching appropriate learning styles to the individual needs of clientele and for matching learning styles for practical applications are best developed on the job. Similarly, skills needed to use learning techniques to develop clients' problem-solving skills and to facilitate their self-discovery potentials are best learned in in-service programs.

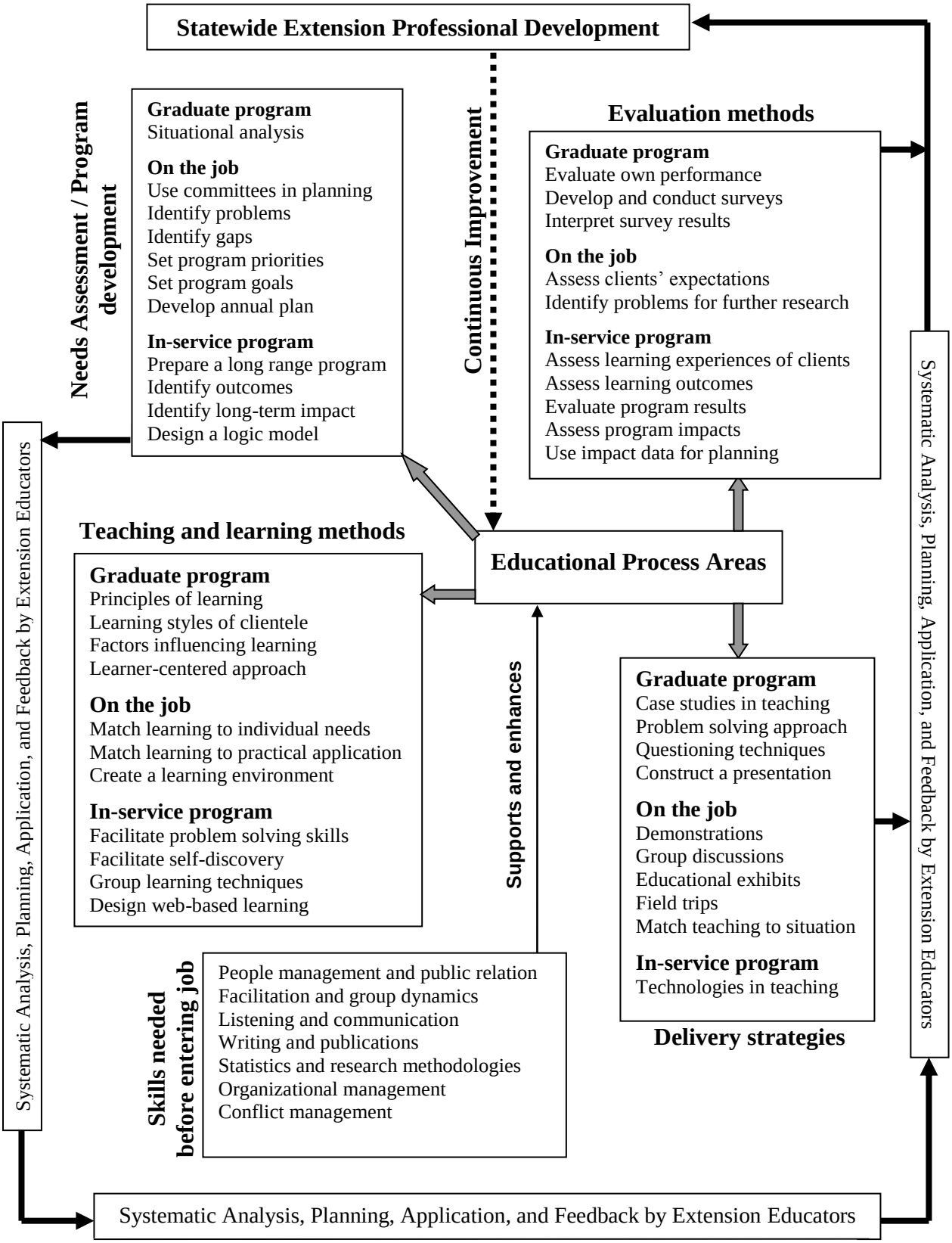

Figure 1. **Professional Competency Development Model**

At the bottom right corner of the model in Figure 1 depicted in a box are the competencies in the area of "delivery strategies". The model indicates that the best settings in which to develop the competencies needed with case study work, problem solving approaches, and questioning techniques while teaching an audience are graduate programs. The skills needed to conduct demonstrations, group discussions, exhibits, and field trips should be learned on the job through practice. The skills needed to use technologies in Extension teaching to promote active and participatory learning should be learned in in-service programs. The modern technologies for extension program delivery may include the use of high-tech approaches, such as distance-based learning and on-line resources that allows Extension organizations to reach larger and wider audiences. Choice of a delivery system is one of the crucial decisions made by Extension professionals, and it can have serious consequences for program effectiveness (Rodewald, 2001).

The box at the top in the right corner of Figure 1 presents the competencies in the area of "evaluation methods". Listed in the box are some competencies that should be developed in graduate programs: how to evaluate one's own performance as an educator, how to develop and conduct a survey, and how to analyze and interpret the responses gathered from such surveys. Similarly, the competencies required to assess client expectations and identify problems requiring further research should be developed on the job. The evaluation competencies such as assess learning experiences of the clients; identify program results, outcomes, and impacts; and develop the skills to use impact data for planning future educational programs should be learned in in-service programs.

Apart from the professional competencies related to the four educational processes areas, at the bottom left corner of the model in Figure 1 additional competencies are depicted in the box named "skills needed before entering job". These additional competencies represent skills needed by Extension educators in the areas of people management and public relations, facilitation and group dynamics, listening and communication, writing and publications, statistics and research methodologies, organizational management, and conflict management. It is expected that identified additional competencies can play important roles to support and enhance Extension educators' abilities to develop professional competencies in the educational processes (*see an arrow from the box at the bottom to the box in the center*). These additional competencies were derived from the respondents, who suggested that Extension educators in the North Central Region may need competencies beyond those included in this study. These additional competencies are listed in the model under "skills needed before entering job" because some authors (Carnevale, Gainer, & Meltzer, 1988) suggested that these competencies are the "skills that the employers are looking for in entry-level workers".

Conclusions

The proposed model in Figure 1 assumes that after their participation in the professional development programs, Extension educators will systematically apply learned knowledge and skills in their day-to-day work. In addition, they will analyze their experiences regarding the impact of such skills in various educational activities and report their feedback to state Extension leaders (*see an arrow leading through vertical and horizontal boxes to the box on the top of the model*). These assumptions emphasize the importance of reflection in this developmental process.

According to Gustafsson and Fagerberg (2004), professional development models need to focus on reflection as a tool

for improving employee performance and competencies. Reflection is a process of looking into one's experiences and then converting them into meaningful learning that ends in better choices or actions (Rogers, 2001). Reflection involves allowing one's own ideas, theories, beliefs, values, and mental models to be informed by the ideas, theories, and beliefs of others in order to examine and interpret one's experience(s) for purposeful meaning (Fiddler & Marienau, 2008).

The model is also based on the assumption that state Extension leaders will adopt a mechanism to obtain continuous feedback from Extension educators. The comments and feedback provided by the educators will continuously improve the competency development programs in their states (*see a dotted arrow from the box on the top of the model to the box in the center*).

Therefore, this model raises expectations that appropriate coordination and cooperation will be developed by Extension educators and state leaders for continuous modification of competency development programs according to the changing needs of the audiences. Gusky (2003) compared 13 different lists of characteristics of effective professional development. Most lists mentioned collegiality and collaboration among professionals. According to Stone and Bieber (1997) and Stone (1997), competency development is a participatory process, and it provides Extension professionals with an opportunity to identify the knowledge, skills, and behaviors to obtain the best results as well as to identify the skills and functions that are no longer effective.

Limitations of the Model

The model was developed from data collected from a survey questionnaire. Therefore, it leaves out the use of qualitative methods in need assessment and program evaluation. Besides surveys, professional development leaders are suggested to include qualitative methods in training curriculum for Extension educators intending to use such methods for data collection and analysis. The authors also want to clarify the possibility of using only a few elements of the four educational process competencies in different times of professional development training. Selection of the listed competencies for training depends on Extension educators' educational backgrounds, experiences, and needs in the workplace.

Implications and Recommendations

Based on the information presented, the model portrayed in Figure 1 can have various implications for national, regional, and statewide extension service in the United States. First, it provides guidelines for developing effective professional development programs needed by Extension educators.

Second, the model is useful for designing educational process competency courses in Extension's in-service and on-the-job training programs. Similarly, the model has implications for design of educational process competency courses at the land-grant universities and colleges of the United States for mid-career professionals as well as for students attempting to develop their professional careers in Extension. In addition, the model can be used to design potential undergraduate and/or graduate courses for students specializing in development of professional competency skills valued by prospective employers and/or those needed by Extension educators (see the box "skills needed before entering job" in Figure 1).

Third, the model can be a landmark to design new policies for employee selection, training, professional development, performance appraisal, and succession planning in the Cooperative Extension Service. The new policy design for employee selection includes Extension

educators, professional development experts, and related staff. Fourth, this model has implications for identification of organizational training priorities in the areas of the educational processes both in public and private agencies.

Fifth, because it points out that the best setting in which to develop many educational process competencies is on the job with practice, the model has implications for adoption of experiential learning approaches in professional development programs through appropriate research, policy, training, and other means.

Sixth and finally, the model has implications for conducting further research related to the educational processes in Extension as well as conducting research to identify the relative importance of and best place to learn the professional competencies listed under "skills needed before entering job."

Staff development is critically important to help professionals stay on the cutting edge of the delivery process, so continuous learning and updates of knowledge related to both "product" and "process" are essential. Product refers to the technologies needed by the clientele and process refers to the soft skills required by the staff to deliver these technologies to the target audience. The mission of the Cooperative Extension Service is to effectively deliver new technology, programs, and services to people to improve their lives. Therefore, the professional development model derived from the findings of this study can play an important role in developing the competencies needed by the Extension educators in planning and implementing the educational programming.

This study has a new perspective on Extension educators' professional development through a professional competency development model. We recommend that state Extension leaders and professional developers reflect on this model and seek opportunities for the best practices to enhance the professional competencies of Extension educators in the United States. Apart from the extension services in the United States, this model has important implications in various international extension settings and is discussed below.

Government agencies provide agricultural Extension services in the countries of South America, Asia, Africa, Oceania, and Europe. Theories and principles of Extension applied in these countries are similar to those in the United States. As a shift in the program delivery process, governments in developing countries of the world have organized farmers into groups to minimize cost and time in the technology transfer process (Fleischer, Waibel, & Walter-Echols, 2002; Scarborough, Killough, Johnson, & Farrington, 1997). In this context, the competencies in four educational process areas listed in the model (Figure 1) have implications for planning and delivering agricultural Extension programs to farmers.

In developing countries, farmers generally believe Extension professionals to be technically competent, to have a range of practical skills, and to be able to give comprehensive advice on farm planning (Ponniah, Puskur, Workneh, & Hoekstra, 2008; Watts, 1970). On the other hand, inadequate training of agricultural Extension staff has been identified as the major bottleneck in responding to the ongoing developments (Rogers, 1996; Swanson, Farner, & Bahal, 1990). Therefore, a common theme for Extension personnel in these countries appears to be a lack of knowledge and skills required to be effective in a complex and rapidly changing agricultural environment (Duo & Bruening, 2007).

The professional competency development model in Figure 1 can be used to implement professional training programs for Extension educators in these countries as well as to identify their training priorities according to farmers' growing need for

knowledge and development. It is recommended that agricultural Extension training centers in the countries of South America, Asia, Africa, Oceania, and Europe conduct studies with Extension professionals to verify the relevance of the current study and to develop professional development models that meet the need of Extension educators in various settings.

It is also recommended that the international agencies (e.g., FAO, World Bank, Asian Development Bank, and USDA) working for agricultural development in developing and underdeveloped countries examine the elements of the model in Figure 1 and its possible implications for training Extension staff and developing local programs.

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