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Review Article

A Review: Training Requirement of Agriculture Extension Officers in Iraq

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Abstract

The training of agricultural extension workers is an integral part of the overall agricultural production process. It is the duty of agricultural extension agents to reach farmers scattered around the country with useful and practical information for increased agricultural production. In-service training of the extension agents is the call of the time. Training needs were assessed using the Borich Needs Assessment Model. This Model is designed around the skills individuals and groups need to be effective in the future and are used for making human resources decisions. Through trained agricultural extension agents new agricultural technology can easily and favorably be transferred to clientele. Training should not be conducted at the time of sowing and harvesting time and lectures should be carried out during the training sessions and choose time suitable for agricultural extension workers. Thus, necessary steps should be taken to identify the unfelt needs of the agricultural extension workers and strengthen their knowledge, skills and attitudes required for performing their job efficiently.

Key words: Training requirement, agricultural extension officers, agricultural extension workers, agricultural extension agent, production process, unfelt needs

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INTRODUCTION

One of the most important steps of training needs is in the development of performance and factors that drive employee for continuity and stability in employment. Training makes a polished hand from crude. It follows a pathway of in freezing the person's previous mental and other inhibitions for introducing the desired behaviors by refreezing. Borich Needs Assessment Model is designed around the skills individuals and groups need to be effective in the future and are used for making human resources decisions. He further suggested that training programs could utilize his model by employing the two extreme positions; what are the measured behaviors, skills and competencies of trainees and what should be (the goals of the training program. Training in any form is intrinsic to organizational REWQ effectiveness and efficiency. Ovwigho¹ identified two major types of training programs; on-the-job training and pre-employment training. The agricultural sector contributes significantly to the building of the national economy as it provides food and jobs for the population, sustains almost 45% of the rural population in Iraq and employs nearly 20% of the workforce².

Agricultural production in Iraq played a significant role, in achieving food security by implementing an oil-for-food agricultural sector, providing sufficient quantities of food for the population of Iraq and enhancing the food supply in general, especially the heavily-imported food supplies, making sure of the role played by the food supply and its ancillary systems in the lives of the poor and food-insecure populations³.

A training identification phase should precede any effort to provide a training program. This is similar to the medical treatment process when a physician has to examine a patient and diagnose a disease before prescribing the adequate medicine. It is difficult to designate the persons to be covered by training, training objectives, program content and the relevant methods without precise and objective training needs⁴.

It is important that all employees update their knowledge periodically and get acquainted with the ever-changing environment of governance. The government mechanisms would have to continuously attend to the changing needs and achieve sustainable development in all fields. All systems in the Middle Eastern countries should be changed and developed so that they outgrow the over dependence on the traditional ways and old programs. Hence, the importance of identifying training needs lies in the fact that it is considered the fundamental basis and the solid foundation on which the

rest of the stages of the training process stand. The exact training needs are crucial and important for the level of expected results since they are largely controlling other subsequent events. While researchers can agree that appropriate pre-service and in-service training need to be provided to teachers, it is much more difficult to identify what trainings are most appropriate and most needed.

AGRICULTURE EXTENSION IN IRAQ

Agricultural extension in Iraq began in 1928 after the founding of the agricultural circles. The Extension Division was founded in 1946 which developed a Department of Agricultural Extension. The main task was confined to the distribution of seeds to farmers until 1952. They formed the first independent agricultural advisory service in its work. In 1958, there was the establishment of the agricultural labor extension which adopted the use of radio, television, cinema, publications and agricultural training as part of its activities. Beginnings of agricultural extension in occurred in 1966. However, the origins or technical agricultural bulletins started about 3700 years ago in Mesopotamia. Speaking of the contemporary agriculture scene, the Agriculture Officers (AOs) are the development professionals in the field of agriculture in Iraq. The agricultural extension service, which is a provincial responsibility in Iraq administration, educates farmers regarding the adoption of the latest technology. Iraq is basically an agricultural country. It has the land, the water, the know-how and the climate that allows for the cultivation of a large number of field and horticultural crops and domestic animals⁵.

LITERATURE REVIEW

Training is the process of acquiring specific skills to perform a job better. It involves the processes of teaching, informing and educating people. Training programs have to meet the espoused high training needs found in the training needs assessment. The training needs to be agreed on by both supervisors and intended beneficiaries should be implemented before other needs⁶. Kalita⁷ found most of the respondents had a favorable attitude towards their profession and majority of them were satisfied with their jobs. A senior officer and progressive farmers were most frequently used as a source of information. The VLEWs identified 61 training need items from 8 disciplines of which 34 were most important and 26 were important⁷. Moreover, findings from a study by⁸ show that free recall questions may provide a less inflated

measure of accessible knowledge learned from school-based suicide prevention curricula. Evaluators and programmatic partners should be cognizant of this methodological issue and consider using a mix of assessment methodologies to determine students' actual levels of knowledge after participation in gatekeeper training. Although, gatekeeper training is effective at increasing knowledge, some question the effectiveness of these programs due to high pre-training knowledge levels.

Another study claims that a wide gap exists between productivity at the research station and farmers' field. To fill this gap, training is an important tool. The findings of the study indicate that the major areas of training needs of the rice growers required plant protection measures, seed treatment, fertilizer management and improved varieties of seeds (training needs of rice growers: A case of Uttarakhand⁹. Training needs were different for native as compared to non-native extension workers and there was a negative correlation between the length of work tenure and the need for training regarding sustainability¹⁰. Moreover, the study reveals that opium growers required more training needs in some of the crucial training areas: Plant protection measures, method of lancing, new techniques for latex collection, opium storage, quantity and method of manure and fertilizer application and time of lancing, the processing, weed control management and post-harvest technology¹¹.

Some studies showed that the training requirement for indicative planning is a major weakness in the planning and the need for training in other areas. Salman¹² find that the existence of a large proportion of workers in the field of gardening did not receive training in pest, diseases and machines¹³. The study identified strong training needs for Edo State extension agents on communication skills ($X = 4.60$), planning demonstration ($X = 4.60$), evaluation of trials ($X = 4.57$) and farmers training ($X = 4.56$). The correlation analysis showed that education had significant relationship with many areas of the respondents' training needs: farmer identification ($r = -0.190, p \leq 0.05$), nutrition and food utilization ($r = 0.339, p \leq 0.05$), communication skills ($r = 0.190, p \leq 0.05$), planning demonstration ($r = 0.190, p \leq 0.05$), recording and reporting ($r = 0.260, p \leq 0.05$), evaluation of trials ($r = 0.190, p \leq 0.05$) and rodents and pest control ($r = 0.236, p \leq 0.05$). Similarly, job experience had a significant relationship with the respondents' training need in the area of planning demonstration ($r = 0.190, p \leq 0.05$)⁴.

The preference of members regarding type, method, duration, season, frequency, place and language of training

was: peripatetic, group discussion, three to six days, winter, once in a year, FTC's and Afaan Oromoo, respectively¹⁴. Staffing at ward and village levels was destitute and largely inadequate for the sustainable execution of extension services¹⁵. The findings of the study indicate that comparing the training needs of those with low and acceptable IPM knowledge levels reveals important differences for designing pest management training programs. Based on these findings alternative pest management training programs for extension agents in Uganda are presented¹⁶. One proven method of identifying agricultural education pre-service and in-service needs assessments utilizes a descriptive survey based on the Borich Needs Assessment 5-point Likert scale^{17,18,19}. Most researchers use a modified version of the Borich Needs Assessment Model to evaluate the perceived level of importance and perceived level of competence of teachers regarding professional competencies that were identified by previous research and related to the issues of their respective states. In 1997, Garton and Chung used a modified version of the Borich Needs Assessment Model and a quadrant analysis to survey the in-service needs of beginning agriculture teachers. In 2002, Joerger modified Borich's Needed Assessment instrument and created a new instrument which was modeled after^{17,20} research. The categories of teaching and classroom management, leadership and SAE development, technical agriculture and program design and management, identified by Joerger, best represent the needed competencies associated with the total program philosophy of agricultural education.

Coordinators indicated overwhelmingly (90%) that they would be willing to participate in in-service education via distance education, yet few coordinators (22%) are currently using distance formats for delivery. Incentives are needed for coordinators to use a wider variety of methods. Training for coordinators and startup funds could be used as incentives to support creative and futuristic delivery of in-services²¹. Results of²², showed that the training needs for extension agents in the preparation of extension work was immense. Also, priorities of training needs for extension agents were at the center of knowledge of the different type of plan extension work compared with the time, as it was ranked first in terms of the need for training of the respondents, while the other axis-knowledge of work extension plan preparation-ranked last in terms of respondents needs.

The present study showed that only 30% of the respondents attended regular training while about 41% of

respondents attended the training with 16-30 days duration. The majority (85%) of the respondents attended training in the areas of water management followed by agronomy (59%) and integrated pest management (43%). It was also observed that majority (55%) of agriculture officers suggested that the training duration should be 1-15 days. Demonstration method was considered as the most important one by the majority of AOs. Training should not be conducted at the time of sowing and harvesting time and lectures should be carried out during the training sessions²³.

The data show that the standard training resulted in more motivation, perceived value of the training and knowledge after the training session than virtual training. But with regard to the learning transfer measured by the behavior in a real and complex situation, the virtual training was as good as the standard training. Both outperformed the control group²⁴.

The training of HPSDA agricultural extension workers could concentrate on improving their knowledge in the seven identified areas of organic farming skills²⁵. Five competencies in need by agricultural extension agents included agricultural waste management (MWDS = 8.40), participatory technology development (MWDS = 7.02), water conservation (MWDS = 6.73), integrated crop management (MWDS = 6.50) and soil erosion (MWDS = 5.82). The human resource development programs should study how the top in service areas can be addressed in training workshops²⁶.

Furthermore, it has been reported that providing feedback on learners' performance supports their acquisition of procedural knowledge²⁷. While training for complex team tasks, individual team members often do not have the cognitive resources for self-monitoring or the reflection of team processes²⁸, but providing an opportunity for such reflection would be important for efficient team training. The study of²⁹ indicates that the highest percentage was 94.6% and 87 for workers who have studied courses in agricultural extension and the lowest was 5.4% and 5 of the workers who did not study courses in the agricultural extension of the total workers. This indicates that the majority of extensions are considered courses in agricultural extension.

In conclusion, the above studies clearly show that there is a need for training in multiple areas in the agricultural sector. In order to have a training program that meets all aspirations to promote the agricultural sector, there must be a training program with the training needs identified to avoid loss of time, effort and money without achieving training objectives and thus low of agricultural productivity. After that,

there must be an integration of the current advances in agriculture technology into the curriculum and teaching skills and concepts in electricity, small animal care and veterinary technology and skills and concepts in animal biotechnology, aquaculture, environmental guidance and all information new in the agriculture field.

TRAINING NEED

According to³⁰, training is the process of acquiring specific skills to perform a job better. It involves the processes of teaching, informing and educating people. It helps them to become qualified and proficient in performing their duties. Obibuaku³¹ states that the ability of an extension agent to guide farmers from the awareness stage to the sustained adoption of agricultural innovations was dependent on his training and experience in agriculture and extension methods. The training needs are the first step in establishing an effective training program. It serves as the foundation for determining learning objectives, designing training programs and evaluating the training delivered.

Youdeowei and Kwarteng³² defined training need as the difference between the required level of individual competence and his present level of competence. A training need is a shortage of skills or abilities, which could be reduced or eliminated by means of education and development. Training requirements hinder employees in the fulfillment of their job responsibilities or prevent an organization from achieving its objectives. They may be caused by a lack of skills, knowledge or understanding, or arise from a change in the workplace³³. Team training needs to impart to trainees an understanding of multiple factors of: The equipment they use, demands, task and its environmental effects, decision-making process, their own role in the task and finally, knowledge, skills and attitudes of their teammates³⁴. Another study³⁵ indicates the need for interviews to develop training programs with new information.

Intercept theory of training needs: Several theories of training needs identification have been proposed and practiced by organizations. The three popular theories are skill-gap analysis, organizational and occupational analysis and critical incident theory. Wentling³⁶ describes the skill-gap analysis as a process which involves understanding the current skill levels of those who need training in order to focus on the desired and important skills. It involves analysis of the potentials of the staff in relation to the task to be carried out, starting each task and using the professional judgments

of individuals (supervisors) in determining the extent, to which the extension staff already have the skills and developing a test or performance measures and administering them to the extension agents. The intercept theory stipulates that the needs agreed by both extension agents and block extension supervisors based on the job description of the extension agents should be reduced or solved through training before embarking on other needs. The process involves rating of staff (trainee or beneficiary) by superordinate staff (supervisors). Colleagues and another stakeholder can be involved in rating the training needs.

THEORY OF TRAINING

There are actually multiple dimensions of learning, not just one. Learning in each dimension was distinct, requiring different sets of skills and abilities.

Theory of cognitive: It stresses improvements in the quality of thinking activities by moving learners toward achievement of goals. The trainer's role is one of adjusting the learning situation to enhance the pace of learning and to arrange the sequence of learning points to suit the material being presented. Simplification and organization are keys to the enhancement of learning in cognitive training. Many trainers also focus their attention on building strong motivation for the learning process³.

Theory of trainer instance supposes you wanted to make a telephone call to schedule an appointment. You would look up the number and quickly memorize the number and then dial it. Ten minutes later, you would not be able to recall the number. Dropping items from memory that serve no further purpose avoid the mental jumble that might otherwise accumulate. Long-term memory is used to retain important and useful information for long periods.

Theories of cognitive training: According to this theory, the trainers are provided with the knowledge necessary to carry out their functions in the workplace. There are several problems we have to overcome in order to be successful in this type of training. There are several ways to combat that problem; each involves making the knowledge more memorable. One way is to link the learning to the knowledge that learners already have internalized.

Trainer perceptual-motor theory (psychomotor theory): Abilities such as these are associated with the sensory and motor segments of the brain's cortex. Other examples of psychomotor skills are a keyboard, touch typing, playing a

musical instrument, swimming and repair machine. In the realm of broadcasting, tasks such as loading film cameras, misreading and operating an audio mixer, all require the development of psychomotor skills. The theory is advanced that the common denominator of a wide range of addictive substances is their ability to cause psychomotor activation.

Theories of trainers attitudes, behavior and relationship:

It's evident that trainer attitudes affect behavior in many important ways. If we have negative attitudes toward our work organization, we will surely perform less efficiently than if our attitudes are positive. Creating a positive atmosphere in the workplace is an important aspect of attitude training. More specifically, attitudes play a role in aspects of the work such as punctuality, safety consciousness, performance accuracy and motivation.

Theories of held and new attitudes: Require trainers first to offer convincing arguments against positions held and then arguments in favor of the new approach. This sounds simple, but it is actually quite difficult. The entire exercise is based upon an appeal to logic, but as we well know, people do not always behave rationally. One of the underlying assumptions about the link between attitudes and behavior is that of consistency. This means that we often or usually expect the behavior of a person to be consistent with the attitudes that they hold. This is called the principle of consistency. The principle of consistency reflects the idea that people are rational and attempt to behave rationally at all times and that a person's behavior should be consistent with their attitude. Whilst this principle may be a sound one, it is clear that people do not always follow it, sometimes behaving in seemingly quite illogical ways; for example, smoking cigarettes and knowing that smoking causes lung cancer and heart disease. There is evidence that the cognitive and affective components of behavior do not always match with behavior. This is shown in a study by³⁷. Attitudes structure can be described in terms of three components.

Affective component: This involves a person's feelings and emotions about the attitude object. For example, I am scared (afraid) of spiders. Behavioral (or conative) component, the way, the attitude we have, influences how we act or behave. For example, I will avoid spiders and scream, if I see one, Cognitive component; this involves a person's belief, knowledge about an attitude object. For example, I believe spiders are dangerous. This theory is very important for agricultural extension workers to achieve the goal of training.

Theories of human motivation: In psychological Review, Maslow subsequently extended the idea to include his observations of humans' innate curiosity. His theories parallel many other theories of human developmental psychology, some of which focus on describing the stages of growth in humans. Maslow used the terms physiological, safety, belongings and love, esteem, self-actualization and self-transcendence to describe the pattern that human motivations generally move through³⁸.

CONCLUSIONS AND RECOMMENDATION

Based on the aforementioned findings, training programmes have to be planned well by the training institutes and governments should take into consideration the training needs of the AOs and AEOs so that they may acquire the relevant knowledge and skill in the new techniques and the same may be imparted to the farmers so that they can, in their turn, upgrade the existing knowledge in a better manner. Moreover, farmers are not fully aware of the appropriate farming techniques, management skills and relevant programs available by services. The extension officer needs to guide the farmers to acquire new problem-solving techniques and knowledge. Therefore, training needs play a very important role in the lives of agricultural personnel as well as farmers. Thus, necessary steps should be taken to identify the unmet needs of the demonstrators and strengthen their knowledge, skills and attitudes required for performing their job efficiently. The approach used will help county staff, specialists and staff development personnel in targeting the critical needs of training in relation to the subject matter topics, professional development and technology. Such a proactive approach to in-service training will enhance the abilities of county staff to do their job and keep them up-to-date. The need to address all constraints and problems facing the training process through (work analysis, analysis of the individual), which led to low productivity and lack of performance of work required and removed and learn the right ways to solve for the discovery of reasons is part of the solution. Intensive studies on how to determine training needs, training needs identification models in other organizations and choose what best fits the circumstances of the particular organization. Also the need for technical changes into account in identifying training needs and effective modern methods for developing organizational performance in your organization so that it is based upon the rules of sound scientific and accurate and in-depth studies to ensure success and continue to provide services.

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