

Training Needs of Agriculture Extension Officers in Iraq

Jasim Mohammed Saleh, Norsida Man, Majeed Hadi Salih, Salim Hassan, Nolila Moha Nawi, Sarah Jasim Mohammed

University Putra Malaysia, Department of Agriculture Technology, 43300 Serdang, Malaysia

Abstract- This paper examines the training needs of extension agents in Iraq agriculture, specifically, the practice of different extension approaches, activities, methods and principal problems of extension agents in their fieldwork. Training in any form is intrinsic to organizational effectiveness and efficiency training. The type of training given to an individual who is gainfully employed but requires certain knowledge and skills to improve his efficiency. The purposes of this paper are 1) investigating the training needs for extension agents to perform their work effectively, 2) suggesting the suitable extension method for the present agricultural extension service in Iraq, and 3) identifying the primary functions and major problems of extension agents in Iraq 4) identifying the training needs in these study according to the areas of studies. 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. According to the centralized administration, the extension workers have been practicing mostly the training and visit system in a top-down Iraq. Due to the non-involvement of local people in the extension program planning, implementation, and decision-making process, the extension service developed inefficiently. Therefore, the extension workers, researchers, and local farmers should cooperate in the extension work, especially in the planning, implementation, and evaluation of the extension program to develop the extension service in Iraq Agriculture. The local farmers should be involved in the decision-making process because they are really facing the problems in their field. All extension workers and subject matter specialists are now interested in implementing PEA in the future in the agricultural extension service.

Index Terms- Training Needs, Agricultural Extension Officers, Iraq.

I. INTRODUCTION

The success of agricultural extension and its role in agricultural development doesn't stop its ability to transfer know-how to farmers, but also on its capacity to create active and positive interactions between agriculture and the other officials involved in the process of agricultural development in order to understand and learn from practice and help them identify and clarify where the needs and experience (Saleh, et, at. 2015). 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. Training in any form is intrinsic to organizational effectiveness and efficiency. (B, O. Ovwigho, 2011) 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, live it as almost 45% of the rural population in Iraq, and employs nearly 20 % of the workforce (Ibrahim, 2009).

Agricultural production in Iraq played a significant role, in achieving food security by implementing an oil-for-food agricultural sector, become further now provide sufficient quantities of food, to the population of Iraq and supports displaying food generally, especially for food supplies to importing too much, and must be sure that the weight of food supplies and other support systems play, an important role in the lives of the poor and food-insecure populations (Shehu, Patrick & David, 2013).

Identifying training needs, the diagnostic phase of the training process, as the doctor could not prescribe treatment before examining the patient and identify the type of disease, it is difficult to identify persons covered by training, training objectives, and program content, and the method can give him training and objective assessment of the training activity without precise and objective training needs. (Omogbee, 2009).

Agricultural extension plays an important role in rural development; the success of agricultural extension work depends on competency (knowledge & skills) of the extension agent, who is the critical element in all extension activities. Extension agents should possess professional competencies in many areas, which provide the critical skills and knowledge for them to be able to perform the work assigned to them. As a result of the continuous change in the knowledge and skills, extension agents need to keep up with this change through training.

II. AGRICULTURE EXTENSION IN IRAQ

Agricultural Extension saw a definite change after change in Iraq 2003, when USA occupation of Iraq, after the restructuring of the Ministry of agriculture eliminated many circles in Iraqi institutions and some other services, agricultural extension, and change add and transferred the workers to and from the extension. Large sums have been spent to increase agricultural production by agricultural extension, and the construction of a vast number of outreach centers and farms throughout the governorates of Iraq 2003. Agricultural extension had a crucial role in identifying the problems facing farmers and transferred to scientific research to study, also find appropriate solutions,

recommendations, and solutions to the problems. The seeking guidance in a simplified, and extended the role of agricultural extension to extension service includes all aspects of agricultural production, as well as all matters relating to rural life, targeting rural women farmers, and young people (Saleh, 2011).

III. LITERATURE REVIEW

3.1. Training Needs of Agricultural Extension Agents

The Extension Agents agreed that they needed training in 8 areas of their job descriptions. These were script writing (M=3.17), audience analysis (M= 2.90), statistical analysis of field data (M=2.98), teaching/ communication skills (M=2.63), Participatory Rural Appraisal (M=3.10), techniques for GMO foods production ((M=2.60), computer appreciation/skills (M=3.04) and use of multi-media projectors (M=3.27). However, the Block Extension Supervisors excluded statistical analysis of field data. Thus the valid training needs were 7. The training needs agreed by both Extension Agents and Block Extension Supervisors should be addressed before any other needs. (B.O.Ovwigho, 2011). 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-services, (Nikki L. Conklin, Laryssa L. Hook, Beverly J. Kelbaugh, Ruben D. Nieto), (2015).

The most important findings of study are: 1- The animal production field came at the first rank followed by bee keeping and lastly the plant production field for male farmers while female farmers rank the plant production as the highest priority field for training followed by bee keeping and animal production is the third priority while food processing became the last priority for training. 2- With respect to training needs in plant production field, the training in vegetables production was the priority of female farmers followed by field crops then fruit trees. While for male farmers the fruit trees ranked firstly followed by vegetables and the field crops were in the last priority. 3- Regarding the priorities of training in animal production field, the poultry came first followed by cattle then the sheep for male farmers. While female farmers have priorities were, sheep is the first priority followed by poultry and the cattle came as last priority for them. (A.N.H. Al – Shadiadeh, 2007).

Induct study (Mohammad Chizari, et, at, 2006). The years of residence in rural areas, educational level, and active participation in training courses influenced the level of training needed. 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 need for training regarding sustainability. According to study (Dinesh Singh Yadav, et, at. 2013) The results revealed that the majority of extension workers reported medium to high training needs in seven specific areas: biodynamic farming, homa farming, bio-rational pest management techniques, biological methods of pest control, bio-fertilizer technology, record keeping certification standards, and grading/packing and marketing of organic produce. The majority of extension workers reported low or no

training needs in the areas of composting, vermicomposting, green manuring/green leaf manuring, and crop rotations. There was no significant relationship between age, educational qualifications, or service experience with identified training needs. Findings from a study by Christine, Tarquini, Totura, and Christa (2015) 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.

The top 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 workshops. (Amirhossein and Zarafshani, 2008). Inducted the study of (Saleh, 2015) 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 agricultural extension of the total workers, this indicates that the majority of extensions is considered courses in agricultural extension.

The findings of study (Halilu Emmanuel, 2012), shows that there is training needs for extension workers in ADP of Gombe State, there are problems associated with extension service delivery. Based on these findings it is recommended that extension workers should be encourage attending seminars, conferences, and additional courses in higher institution. Most of them had favorable attitude towards their profession and majority of them were satisfied with their jobs. Senior officer and progressive farmers were most frequently used source of information. The VLEWs identified 61 training need items from 8 disciplines of which 34 were most important, 26 were important and 1 item was adjusted not important. (Hemanga Kumar Kalita, 2014).

Results study (Mithal A. Salman, et, at., 2012), showed that the training needs for extension agents in the preparation of work extension 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 professionals mostly preferred to participate in in-service training courses to develop their competences including situational analysis, reflective practice, project management, professional practice and systematic inquiry, respectively. Therefore, these courses can ensure their continuous professional development, (Mohammd, et, at, 2011).

According to (Aamel F. Al-Abassi, et, at., 2009), it was found a need for training the extension workers in all extension aspects and there are different priorities in the needs of the two Governorate. It was also found that there were no significant

differences in the training needs according to: age, race, gender, academic level, specialization, position in extension, years of employment, years of extension employment, place of job, and previous training. Majority (81%) of the extension agents reported lack of teaching equipments/facilities, poor linkages between research and extension organizations (15%) and (3%) each reported mobility/funds and dispersion among the farmers were the major obstacles hampering extension agents in developing educational program. The main difficulties identified by extension agents regarding technical services providing to farmers were lack of resources (29%), poor knowledge (24%) regarding improved agricultural technologies, illiteracy (16%) among the farmers and communication problems (11%), (Arshad, et, at, 2010).

Findings revealed that the mean age of the respondents was 41.7 years. More than half (55.3%) of them holders of National Diploma (ND) and about seventy two percent of the respondents had been working in extension service for 6 and 7 years. The tasks performed by the extension staff ranged from advising farmers on improving methods of farming to new task on health issues such as campaign on HIV/AIDS. 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 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 ($r = 0.236$, $p \leq 0.05$). (Omogbee, F.E. and Ajayi, M.T.2009).

3.2. Training needs of skills, knowledge related with Plant sciences

According (K. P. S. Rathore, G. S. Bangarva and Arvind Kumar Jhaharia, 2014), reveal that opium growers required more training needs in some of crucial training area viz; 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 technology" were least needed training areas of opium growers about improved opium production technology. According to (Mohammed, et, at, 2012). Web diagram shows that AEOs urgently need in-service training to enhance their knowledge regarding horticulture. The horticulture is chosen keeping in view its economic and nutritional value and acute shortage of fruits. Moreover, the secondary data also support this fact (as indicated by statistics that per hectare availability is less than 144kgs. The problem is further complicated due to ever increasing population growth in the country. It is further recommended that effective measures should be initiated in order to lessen the communication gap between the possessed and the required level of technical competencies.

Agriculture Extension Officers in Khyber Pakhtunkhwa should be trained in the horticultural related activities as the demand for fruits, vegetables and flowers are increasing and there is an increasing pressure on horticulturist to produce more

fruits, vegetable and flowers with the changing lifestyle and eating habits. (Khan et al., 2012). According (Manish Bajpai, et, at., 2007), the findings of the study indicate that the major areas of training needs of the rice growers were plant protection measures, seed treatment, fertilizer management and improved varieties of seeds. The study of (Hari Singh and Jeewan Ram Jat, 2014) suggest that Farmers may be trained regarding improved technologies of sesame crop through farmers training, field demonstration and exposer visits etc. and availability of inputs at reasonable cost at village level be ensured. Village level institutions may be strengthening more to boost up the production of sesame in arid areas of Rajasthan.

The important training need areas identified in order of importance are Soil Science, Entomology, Agronomy, Plant Pathology, Nematology and Horticulture. Correlation analysis has shown that age, service length, job performance and training exposure had a negative and significant correlation with training needs. Thus, variables like age, service length, job performance and training exposure could be considered while conducting training as these variables had significant correlation with the training needs of the respondents. (G. Nongdu, et, at, 2012). Regarding assessment of technical competencies (agronomic practices) needed by agricultural officers in the Punjab out of 14 training needs of AOs the top three (most important) were: (1) the ability to describe the agronomic practices of minor crops ($DV=0.68$) (2) the ability to advise about the plant protection of minor crops (mean=0.62); and (3) the ability to guide farmers about the seed rate of minor crops ($DV=0.56$). The training needs with lowest importance levels included: (1) the ability to guide farmers about the seed rate of major crops ($DV=0.21$); (2) the ability to advise about the fertilizer requirement of major crops ($DV=0.36$); and (3) the ability to guide about the irrigation requirement of major crops (mean=0.45). (Khan et al., 2007). The results of (T. M. Madkour, et, at, 2009), showed that training needs of the vast majority (approximately 84%) of the respondents in this field were moderate and high. -Results of multi-correlation coefficient showed that the independent variables collectively responsible for explanation 32% of the variation in the training needs of the agricultural Extensionists respondents, in some of technologies of organic farming The most important reasons not to apply the technologies of organic farming in Kafrelsheikh governorate cold be ranked from top to down as follows: Fragmentation of farm land tenure (60 %), Lack of awareness of the farmers with these technologies (53%), Lack of extension activities in this area to educate farmers (40%), High cost of organic farming (30%), Nonexistence the inputs of organic farming (approximately28%), Difficulty of marketing of organic products (20%).

3.3. Training needs of skills, knowledge related with smallholders, animals

According to (A. D. Bekele and G. B. Pillai, 2011), about 50 to 75% of the training was perceived to be more practical as vital part in the training program. As per the model analysis output, indebtedness and economic motivation positively influenced the perception of members' training need; whereas, knowledge and training undergone in dairy marketing was found to negatively influence training needs at 1% level of significance. Irregular supply of milk, long fasting days, lack of transport

facilities, absence of training, lack of credit access from the dairy coops(co-operatives) were found to be the basic constraints in dairy marketing among members. The findings suggest that co-operative policy makers and practitioners should stress in the adoption of participatory co-operative training approach and it should be implemented to increase the motivation, sense of ownership and shared responsibility among all co-operative stakeholders.

There have been some studies that have attempted to identify training needs for fish farmers to examine (Kumaran and Ponnusamy, 2001) where noted that more training was needed areas of diseases and their causes, pond construction and management, selection of fingerlings and custody, nutrition. Either (Adekoya, 2005) it was found that the areas of need for training is the fish feed, fish hatchery, fish diseases, pond construction and maintenance, site selection of ponds, pond water management. Either (Ogunlade, 2007) it has been found that most need for training farmers is water management, dealing with fingerlings, controlling the jungle, fish diseases, fish feeding. In Iraq it was found (Salman, 2011) most areas need training divisions fish followed by fish feeding, water used for rearing fish and then create fish ponds. The study (Bassim H. Kshash,2012), found that the respondents have a medium need for training , the field of fish diseases and their causes were most in need of training , there's a positive relation between the level of training needs and ponds area , and negative with years of Experience ,training courses and net Profit

With regard to extension officers in animal husbandry department first, training which includes farming and breeding management as well as content delivery is critically needed to enable Agricultural Extension Officers to become better and more relevant in performing their duties (Azizah, 2011). The results of study (Vishal Raina, et, at., 2014), revealed that a majority of farmers needed a medium to high level of training in areas like seed treatment, optimum dose of fertilizer, identification of insects/disease & their control measures, identification of weeds storage, proper use of rain water and marketing of storage.

The study revealed that majority of the respondents need trainings on water quality management (80%). Only 16 and 10% respondents expressed training need on fish seed handling and transportation, and fish nutrition and feeding, respectively. Negatively significant correlations were observed between interest and attitude towards fish farming age and education. Individual independent characteristic and training needs of the farmers had negative correlations with education (X2) ($p < 0.01$) and attitude (X13) ($p < 0.05$). Positively significant correlation between possession of pond (X5) and age (X1) ($p < 0.01$), income (X4) and age (X1) ($p < 0.01$), economic motivation (X7) and age (X1) ($p < 0.01$), decision-making ability (X8) and age (X1) ($p < 0.05$), attitude (X13) and education (X2) ($p < 0.05$), income (X4) and main occupation (X3) ($p < 0.05$). The study concluded that before assessing the training needs, the fish growers of the district should be made aware of the latest technologies in aquaculture.(Uttam, et, at., 2013).

3.4. Training needs of skills, knowledge related with agricultural equipment

According the study of (Al-Ghamdi and Shanafey,. 2008). The existence of a large proportion of workers in the field of gardening did not receive training in pest and diseases and machines, the training of skills needed in the fight against insects and diseases and machines rise for both engineers. For engineers and agricultural technicians with the arithmetic mean of the average degree of 3.86 for engineers and technicians to 3.83., the existence of significant differences between some personal qualities for Community research and training needs in specific skills to fight against insects and diseases and machines.

3.5. Training needs of skills, knowledge related with Marketing Agricultural

Findings from the study(Ogunleye, K.Y, et, at, 2010), revealed 56.2% of the respondents were within the age range of 31 and 50 years, majority (82.9%) were married and (65.7%) had primary education. Majority (70.5%) had farming as their primary occupation with 77.1% having farming experience not less than 11 years. A large percent financed their cassava business from their personal savings. Also, substantial respondents (85.7%) source marketing information from traders. Chi-square analysis revealed that, there was a significant relationship between sex ($2=11.667$; < 0.05), Marital status ($2=260.571$; < 0.05), education (250.057 ; < 0.05), primary occupation, ($2=17.610$, < 0.05), farming experience ($2 =71.457$; < 0.05) and marketing extension needs of cassava farmers. However, Age ($2 =39.33$; > 0.05), religion ($2 =2.752$; > 0.05) and cassava association membership ($2= 3.438$, > 0.05) were not significant. Therefore, agricultural marketing techniques should be incorporated into agricultural extension delivery packages to ensure continuous farming practices and adoption of innovations.

Training programs have to meet the espoused high training needs found in the training needs assessment. 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 group. (Johanna Bertram et, at, 2014).

IV. TRAINING AND TRAINING NEEDS

Training is the process of acquiring specific skills to perform a job better (Jucious, 1963). It helps people to become qualified and proficient in doing some jobs (Dahama, 1979). Usually an organization facilitates the employees' learning through training so that their modified behaviour contributes to the attainment of the organization's goals and objectives. Van Dersal (1962) defined training as the process of teaching, informing, or educating people so that (1) they may become as well qualified as possible to do their job, and (2) they become qualified to perform in positions of greater difficulty and responsibility. Training is the process of acquiring specific skills to perform a job better. It involves the processes of teaching, informing and educating people (Johanna, et, at, 2014). As training is an essential part of the extension and is any efforts by the Organization to help workers to adapt, directs, and training to acquire the skills and information, trends and to all employees of different levels of career guidance and scientific expertise,

(Keshta, 2010). 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 workplace (Sharif, 2006). Training needs identification is the first and most important tasks of the steps and processes that must be performed before the beginning of training work (Tres, 1991). The definition that differentiates a clear differentiation between the competencies and identify training needs, not every decrease in performance can be shot training. The weakness or absence of training agricultural extension workers after employment in planning, instructional program is an influence on the success of the extension work, in General, (khazraji, 2011). Training needs for extension personnel can be defined in terms of gap between job requirement and job performance (Mishra, 1990). Training needs is defined as a need to improve or develop and efficiency to get knowledge, skills, and competency or new information for the job performance to can suitable in your job effectiveness and efficiency from the training courses.

V. CONCLUSIONS

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. Extension officer needs to guide the farmers to acquire new problem-solving techniques and knowledge. So 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 unfelt needs of the demonstrators and strengthen their knowledge, skills and attitudes required for performing their job efficiently. The approach used it will help county staff, specialists, and staff development personnel in targeting the critical needs of training relative to 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. As the training needs of extension personnel changed over time, training needs assessment should also be done on a regular basis and the important areas in which the extension personnel needs training should be considered while planning training for the extension personnel. All studies mentioned reference to the task of training needs in each area of study so important make pre-service and in-service teachers to develop skills and abilities of workers in agricultural extension important program mode meets the requirements and aspirations of the Organization to provide the best services and thus develop the agricultural sector.

VI. RECOMMENDATION

Based on the findings of the study, the following points are suggested and recommended for the development of better agricultural extension strategies.

1. A new extension approach should be set up based on a participatory concept by cooperation of government agencies and local people. All the extension methods and activities should be implemented with the new approach as soon as possible.
2. To boost up successful implementation of extension activities, there is an urgent need to set up the citizen participation in the extension programmes planning, implementation, evaluation, and decision-making processes in a bottom-up.
3. Local farmers, related government agencies, Non-Government Organizations (NGOs) and the Agriculture Service (MAS) should be equally and actively involved in these most important processes. This will bring more detailed information and will result more realistic and transparent extension working plans for every district.
4. The best way to overcome the constraints, which were investigated in this study, might be the implementation of a new Participatory Extension Approach (PEA) instead of practicing the existing extension approaches in Agriculture. Government extension agencies, especially the Agricultural Extension Department (AED), should start to implement the new PEA in its own extension programmes.
5. It is very important to introduce the new courses concerning PEA to the curricula of Agricultural University and State Agricultural Institutes. Once again PEA training for the agricultural extension workers should be introduce at the in-service training centers and respective departments of the Ministry of Agriculture and Irrigation.
6. Also there is a need for ongoing studies to find out training needs in any area of any glitch will affect negatively the performance of agricultural workers should be efficiency, skills, knowledge and information that makes the employee unable to perform the appropriate career.
7. And through these studies noted a lack of studies in the areas of livestock that have multiple areas of skills and knowledge and information important, to perform well and should conduct studies in this area, important for efficient productivity of the aspirations and wishes of the farmers and Governments generally, to meet the shortfall in livestock products.

REFERENCES

- [1] A. D. Bekele1 and G. B. Pillai2. (2009), Training needs of members in dairy cooperative marketing in Ethiopia University, Ethiopia.
- [2] Al-Dulaimi, Jasim Mohammed Salih. (2011). The impact of the use of field crops newsletters of agricultural extension education development in Iraq as the contemporary global trends, Master thesis, Institute of research and study Arabic, Egypt.
- [3] Amirhossein Alibaygi and Kiumars Zarafshani. (2008). Training needs of Iranian extension agents about sustainability: The use of Borich's need

- assessment model. Department of Agricultural Extension and Education, Faculty of Agriculture, Razi University, Kermanshah, Iran.
- [4] A.D. Bekele, and G. B. Pillai. (2011). Training needs of members in cooperative dairy marketing in Ethiopia. Department of Cooperative Studies, Mekelle University, Mekelle, Ethiopia.
- [5] Adekoya ,Ezekiel Oriyomi(2005) :Information and training needs of smallholder fish farmers in Ogun state , Nigeria ,Msc thesis , university of agriculture ,Abeokuta ,Nigeria .
- [6] A.N.H. Al – Shadiadeh. (2007). Descriptive Study of the Training Needs for Men and Women Farmers in Semi Desert Areas a Case Study of South Jordan. Faculty of Agriculture, Mu' tah University, Jordan.
- [7] Arshad Farooq, Muhammad Ishaq, Nisar Ali Shah And Robina Karim , (2010). Agricultural Extension Agents and Challenges for Sustainable Development (A Case Study of Peshawar Valley). Technology Transfer Institute, PARC, Tarnab, Peshawar – Pakistan. Sarhad J. Agric. Vol 26, No.3, 2010.
- [8] Aamel F. Al-Abassi Aabid A. Hassan Arwa M .Fathi Luma M.Edress, (2009). Needs of Agricultural Extension Workers in Kirkuk & ASulaimani Provincics For Some Agricultural Extension Knowledge & Competencies.
- [9] Abdul Mohsen bin Mosleh Al-Ghamdi and Mohammed bin Saleh Al-Shanafey. (2008). Training needs of engineers and agricultural technicians to pest and diseases in general management for parks and architecture by Riyadh Municipality. Search (No. 162), the Research Centre Faculty of food and agriculture Sciences, King Saud University, p.o. box (5-23) 2008.
- [10] Azizah.S.2011. Training needs assessment of Agricultural Extension Officers in Animal Husbandry Department of Malang Regency, East Java-Indonesia. Journal of Agricultural Extension and Rural Development. 3(8), 147-152
- [11] B.O.Ovwigbo,(2011) Training Needs of Agricultural Extension Agents in the Central Agricultural Zone of Delta State Nigeria bishopyvwigbo@yahoo.com, Department of Agricultural Economics and Extension, Delta state University Asaba Campus, Asaba, Nigeria.
- [12] Bassim H. Kshash . (2012). Training needs for fish farmers in Babylon province / Iraq within some aquaculture practices, agriculture coll. – Al-Qasim green University. Iraq.
- [13] Christa D Labouliere , Sarah J Tarquini, Christine M W Totura, Krista Kutash, Marc S Karver (2015). Revisiting the concept of knowledge. How Much Is learned by students Participating in Suicide Prevention Gatekeeper Training? the Journal of Crisis Intervention and Suicide Prevention.
- [14] Dinesh Singh Yadav, Pankaj Sood, Surender Kumar Thakur & Anil Kumar Choudhary . (2013). Assessing the training needs of agricultural extension workers about organic farming in the North-Western Himalayas Himachal Pradesh Agricultural University, Farm Science Centre, Sundernagar District Mandi Himachal Pradesh, India. ISSN 1177-4258.
- [15] Dahama, O. P. (1979). Extension and rural welfare. New Delhi: Ram Parsad and Sons.
- [16] Ibrahim, Mohamed Ibrahim, Hassan Kamal, Salem Saeed Global, Suhail Anwar, Yahya Alsaïdi. (2009). Adult education in the Arab world, Dar Al-film, 1st Edition.
- [17] Salman, Methal, et al., (2011): Training needs for fish farmers in the Taji area, Baghdad and its relation to certain variables, Journal of agricultural science, 42 (3) Journal of agricultural science, 42 (3).
- [18] T. M. Madkour, R. H. Shalaby , A. I. Elhamoly & Sh. Anwar, (2009). Training Needs of Agricultural Extension Agents in Some Organic Agricultural Technologies at Kafr El-Sheikh Governorate, Department of Agric. Economics, Fac. of Agriculture, Kafrelsheikh University. J. Agric. Res. Kafer El-Sheikh Univ., 35 (3) 2009.
- [19] TRIS, William. (1991). The design of training and development systems, translation Saad juicy, the review said Al-show-off, Institute of public administration, public policy research, Saudi Arabia.
- [20] Sharif, Zeenat Hashim. (2006). The level of knowledge and the implementation of rural women of some of the recommendations of the national project for the cultivation of potatoes in the Lake, Ismailia, Research Bulletin No. 270 Research Institute of Agricultural extension and rural development, Ministry of Agriculture, Giza.
- [21] G. Nongtdu, R. Bordoloi, R. Saravanan, R. Singh4, N. U. Singh, (2012). Training Needs of Agricultural Extension Personnel in Meghalaya. Indian Journal of Hill Farming 25(1):1-8.
- [22] Jasim Mohammed Saleh, Norsida Man, Ahmed Hamdan Lafta, Majeed Hadi Salih, Ismail Abdul. Latiff, Nolila Moha. Nawi, and Sarah Jasim Mohammed, (2015). Needs of Farmers for Guidance Publication to the Development of Agricultural Extension in Anbar, Iraq, University Putra Malaysia, Department of Agriculture Technology, 43300 Serdang, Malaysia. Journal of Economics and Sustainable Development, Vol 6, No 24 (2015).
- [23] Jucious, M. J. (1963). Personnel management (5th ed.). Homewood, IL: Richard D. Irwin.
- [24] Kumaran M.and Ponnusamy K.(2001):Training needs of shrimp farmers -an assessment, Fishery Technology , Vol. 38(2) .
- [25] Khazraji, thunder Muslim Ismail. (2011). Planning cognitive needs of those in charge indicative planning process in the corporate bodies and public agricultural research publication, the Journal of Agricultural Science, 42,1, pp. 2.
- [26] K. P. S. Rathore, G. S. Bangarva and Arvind Kumar Jhajharia. (2014). Training Needs of Farmers about Improved Opium Production Technology in Pratapgarh District of Rajasthan. Ind. J. Extn. Educ. & R.D. 22 : 60-62.
- [27] Khan, M Z., Nawab, K., Khatam, A., Qasim, M., Ayub G. & Nawaz. N. (2012). Communication Gap and Training Needs of Pakistan's Agricultural Extension Agents in Horticulture. Sarhad Journal of Agriculture 28(1), 129-135.
- [28] Khan, M. A. J., Lodhi, T. E., Ashraf, I. & Khan G. A. (2007). An Assessment of Technical Competencies (Agronomic Practices) Needed By Agricultural Officers in the Punjab, Pakistan. Pakistan. Journal of Agricultural. Science. 44(2), 381-383.
- [29] Keshta, Abdul Halim Abbas. (2011). Agricultural extension, rural sociology, Agricultural Extension, Faculty of Cairo University.
- [30] Nikki L. Conklin, Laryssa L. Hook, Beverly J. Kelbaugh, Ruben D. Nieto , (2015). Examining a Professional Development System: A Comprehensive Needs Assessment Approach, Ohio State University Extension.
- [31] Halilu Emmanuel , (2012). Assessment Of The Training Needs Among Agricultural Extension Workers In Gombe State Agricultural Development Programme. Vocational & Technology Education Programme, Abubakar Tafawa Balewa University, Bauchi. Journal of Technical, Vocational & Engineering Education, Volume 5 March.
- [32] Hari Singhand Jeewan Ram Jat, (2014). Constraint Faced by the Farmers in Adoption of Improved Technologies of Sesame Crop in Jodhpur District of Rajasthan. Ind. J. Extn. Educ. & R.D. 22: 190-191, 2014.
- [33] Hemanga Kumar Kalita, (2014). Training Need of Village Level Extension Workers of Hills Zone of Assam Dept. of Extension Education, BN College of Agriculture, Biswanath Charilai-784176, Sonitpur, Assam. Journal of Academia and Industrial Research (JAIR). Volume 3, Issue 2 July 2014.
- [34] Ogunlade, I.(2007) : Backyard fish farmers Information needs in Osun state, Nigeria, AAAE Ghana Conference .
- [35] Ogunleye, K.Y, Thomas K. and Oyebade S. O, (2010). Marketing Extension Needs for Sustainable Extension Practices among Cassava Farmers in Surulere Local Government Area of Oyo State. Ladoko Akintola University of Technology, Ogbomosho, Nigeria. JournalofAgriculturalExtension.Vol.14(1),June2010.
- [36] Omoregbee, F.E and Ajayi, M.T. (2009). Assessment of Training Needs of Extension Staff of Agricultural Development Programme (Adp), Edo State, Nigeria. Department of Agricultural Economics & Extension Services, Faculty of Agriculture, University of Benin, PMB 1154, Benin-city, Edo State, Nigeria. ISSN 1119-7455.
- [37] Mohammad Chizari , Amir Hossein Ali Baygi, Don Breazeale. (2006). Analysis of the Training Needs of Multi-Functional Extension Agents Associated with Sustainability. Department of Agricultural Extension and Education. Tarbiat Modares University. P.O. Box 14115-111. Tehran, Iran. E-mail: mchizari@modares.ac.ir.
- [38] Manish Bajpai, Surya Rathore and Manmeet Kaur, (2007). Training Needs of Rice Growers : A Case of Uttarakhand. Indian Res. J. Ext. Edu. 7 (2&3), May & September 2007.
- [39] Mithal A. Salman Bayan A. Ridha, and Ahlam T. Kadhum, (2012). Training Needs for Agricultural Extension of Work in The Preparation of The Extension Agents Plan Afield Study in The Central Region of Iraq. Department of Agricultural Extension / College of Agriculture / University of Baghdad.
- [40] Mohammdd Chizari, Razieyeh Namdar, and Gholamreza Pezeshki Rad ,(2011). An analysis of training needs of evaluation professionals of agricultural and extension programs in Iran. Agricultural Extension and

Education Department, Faculty of Agriculture, Tarbiat Modares University, Tehran, Iran. African Journal of Business Management Vol. 5(21), pp. 8585-8592, 23 September, 2011.

- [41] Muhammad Zafarullah Khan, Khalid Nawab, Javidullah, Amir Khatam, Muhammad Qasim, Gohar Ayub and Naima Nawaz. (2012). Communication Gap and Training Needs of Pakistan's Agricultural Extension Agents in Horticulture. Department of Agricultural Extension Education & Communication, Agricultural University, Peshawar – Pakistan. Sarhad J. Agric. Vol.28, No.1.
- [42] Vishal Raina, Rakesh Khajuria and Bharat Bhushan, (2014). Training Needs of Potato Growers Towards Improved Technologies. Ind. J. Extn. Educ. & R.D. 22 : 10-14, 2014.
- [43] Van Dorsal, W. R. (1962). The successful supervisor. New York: Harper and Row.
- [44] Uttam Kumar Baruah, Jyotish Barman, Hitu Choudhury and Popiha Bordoloi, (2013). Training needs of the freshwater fish growers in Assam, India. Krishi Vigyan Kendra Goalpara, National Research Centre on Pig, Indian Council of Agricultural Research, Dudhnoi – 783124, Assam, India.

AUTHORS

First Author – Jasim Mohammed Saleh, University Putra Malaysia, Department of Agriculture Technology, 43300

Serdang, Malaysia, Tel; +60182690595 E-mails:
Jassimsalih8@gmail.com, Email address;
gs40102@student.upm.edu.my

Second Author – Norsida Man, University Putra Malaysia, Department of Agriculture Technology, 43300 Serdang, Malaysia

Third Author – Majeed Hadi Salih, University Putra Malaysia, Department of Agriculture Technology, 43300 Serdang, Malaysia

Fourth Author – Salim Hassan, University Putra Malaysia, Department of Agriculture Technology, 43300 Serdang, Malaysia

Fifth Author – Nolila Moha Nawi, University Putra Malaysia, Department of Agriculture Technology, 43300 Serdang, Malaysia

Sixth Author – Sarah Jasim Mohammed, University Putra Malaysia, Department of Agriculture Technology, 43300 Serdang, Malaysia