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Training needs assessment of agricultural officers in Kalaburagi district of Kalyana Karnataka region

¹Manjunath, ²Mahesh, ³D Shashikalabai, ⁴SB Goudappa and ⁵K Amaresh Kumar

^{1,2}Assistant Professor, UAS, Raichur, Karnataka, India

³Assistant Professor, UAHS, Shivamogga, Karnataka, India

⁴Professor, UAS, Raichur, Karnataka, India

⁵Professor, UAHS, Shivamogga, Karnataka, India

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Corresponding Author: Manjunath

Abstract

Agricultural extension organizations worldwide face challenges of professional competence among their employees. Training plays an important role in improving the knowledge, skill, attitude and other behavioral aspects of the extension workers. This study assessed the training needs of agricultural officers (AOs) working in Kalaburagi district of Kalyana Karnataka region during the year 2021-22. The results revealed that majority (53.33%) of respondents require training in medium extent and 23.33 percent require training in high and low extent equally on agricultural practices. Also finding on training needs in different subject viz., agronomy, soil science, plant protection, extension & communication revealed that most important training needs expressed by agricultural officers are identification and control of important pests and diseases of important crop of the area, integrated pest management of important crops, improved varieties of important crops, compost and vermi composting, seed treatment, soil & water samples collection, soil testing, nutrient deficiency symptom and management, post-harvest technology of different crops, biofertilizers production and use. With respect to extension and communication, organizing group discussion, meetings, field days, exhibition & demonstration, effective public speech making, preparation of audio-visual aids and mobile-based agricultural apps & different agricultural portals. Therefore training needs assessment should be done on a regular basis and agriculture department should organize need based training programmes by considering views and suggestions of agriculture officers for their effective job performance.

Keywords: Agricultural officers (AOS), training needs, assessment

Introduction

Agriculture occupies a place of pride in the economic development of the nation and welfare of people. With increases in population, the pressure on agriculture production is also increasing day by day. There is need to increase production and productivity of agriculture crops to feed the growing population. It is also widely recognized fact that transfer of technology from research station to farmer's field is essential for increasing agricultural production. Raitha Samparka Kendras established under Raitha Mithra Yojane during 2000 are the hobli level organization providing agricultural extension services to the farming community at the hobli level. The staffing pattern of RSKs consists of Assistant Agricultural Officers (AAO's) and Agricultural Officer (AO's). Agricultural Officers are extension personnel and the most important technical personnel at the hobli level, who are entrusted with the vital role of inducing the farmers to take up improved agricultural technology to the farming community. It implies that agricultural extension workers should have sound knowledge of the subject and possess communication skills for educating and motivating farmers to adopt new technology. It is therefore, essential that their knowledge is

kept updated so that they are able to pass on the latest and relevant technology to farmers. Training plays an important role in this direction. 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, Obibuaku (1983) ^[4] states that the ability of an extension agent to guide farmers from the awareness stage to sustained adoption of agricultural innovations was dependent on his training and experience in agriculture and extension methods. Training is important factor in improving the knowledge, skill, attitude and other behavioral aspects of the extension workers. In absence of training need assessment, the training conducted has not been able to meet the expectation of extension personnel. The training needs of extension personnel also changes from time to time due to rapid changes in technology and information delivery system. Therefore, training needs assessment of extension personnel before conducting a training programme is very essential. Hence for an effective transfer of technology to the farmers, the extension workers need to be trained in relevant technology, extension technique and communication skills. To make any training

more meaningful a training programme must be relevant and need based. Hence, ascertaining training needs of the extension personnel is the first step in planning. The Department of Agriculture, Kalaburagi, organizes training for agriculture officers to improve their knowledge, skills, and job performances. The various factor which affect the effectiveness of training. One of them and also very important, is the training curriculum. It is therefore, essential that the needs of the trainee should be known to the organizers to make more effective and useful. Keeping this fact in view, the study entitled, "Training Needs of Agriculture officers in Kalyana Karnataka Region" was planned to identify the training needs of Agricultural Extension Officers in order to improve their performance in conducting their job.

Methodology

The study was conducted in 7 Taluks of Kalaburagi District of Kalyana Karnataka during the year 2021-22. Samples of 60 Agricultural officers were selected from 27 Raita

Samparka Kendras of Kalaburgi Districts. Ex-post facto research design was used for the study. The selected respondents were interviewed and the desired information was collected with the help of pre-designed and pre-tested questionnaire. The gathered information was analyzed by using appropriate statistical tools like frequency, percentage, mean, standard deviation etc.

Results and Discussion

Overall extent of training needs of Agricultural officers in the area of technical aspects

The results pertaining to the extent of training needs of agricultural officers are presented in Table 1 and it was reported that majority (53.33%) of AOs, require training in medium extent and 23.33 percent require training in low and high extent equally on agricultural practices. This shows that majority of agricultural officers require training to the medium to high extent to update their knowledge and skills. Similar findings were reported by Nongtdu *et al.* (2012) [3], Yadav *et al.* (2012) [6].

Table 1: Distribution of respondents based on overall extent of training need n = 60

Sl. No	Category	No of Respondents	Percent
1.	Low Training need (<61.81)	14	23.33
2.	Medium training need (between 61.81-86.81)	32	53.33
3.	High training need (>86.81)	14	23.33
Total		60	100%
		Mean=78.31	SD=17.15

2. Training needs of Agricultural officers in different agriculture subject

The training needs of agricultural officers in different agriculture subject were studied and the results are presented in Table 2.

Agronomy: From the results of the training needs of agricultural officers in agronomy areas, it was reported that majority (75.00%) of AOs expressed they most needed training on improved varieties of important crops and different methods of compost & vermi compost making equally, followed by green manuring and integrated weed management (63.33%), while, 65.00 percent and 63.00 percent they just needed training on integrated farming system (IFS) and organic farming aspects / natural farming. Farmers are desire to seek information about new high yielding varieties of different crops to get high yields & more income and also integrated farming system (IFS), composting, green manuring & organic farming to maintain soil health and minimize the production cost. Hence these are felt as more important training needs by the AOs.

Soil Science: Regarding training needs in soil sciences areas, Majority (86.66%) of AOs expressed that they most needed training on soil & water samples collection, soil testing and nutrient deficiency symptom & management (48.33%). This is due to the introduction of soil testing laboratory, many farmers are going for soil testing before planting their crops and also major & micro nutrient deficiencies are highly recurrent and farmers expect more advices on these areas. Hence, the agricultural officers felt them important training needs. These findings were in the line with the findings of Raahalya & Sreeday (2021) [5].

Plant Protection (Entomology & Pathology): With respect to plant protection, Most (85.00%) of the AOs reported they most needed training on identification and control of important pests of important crops, identification and control of important diseases of important crops followed by integrated pest management (IPM) (70.00%), integrated management of plant diseases (IDM) (65.00%) and fungicides & their application (63.00%). It is because, the crop continuously gets affected by pests and diseases and farmers need the help of AOs mainly for identification of pests and diseases. Hence, AOs need to get updated on latest methods for effective control measures. And also other training areas perceived as needed by the AOs are Trade name, chemical name, their formulation, correct use (55.00%), pest & disease survey and estimation of losses, management of nematodes and storage insect pests & their management (48.33%). This findings were in the line with the findings of Mohan *et al.* (2020) [2], Raahalya & Sreeday (2021) [5].

Horticulture: More than half (55.00%) of the AOs reported that they most needed training on post-harvest technology of different crops and growing vegetables/ flowers in poly-house/green house (50.00%). Post harvest technology is gaining importance now-a-days for proper processing and safe storage of crop produce. Hence, the agriculture officers felt important training needs. And also the areas which are perceived as less important training need by AOs are different propagation methods, method of pruning, grafting and staking, advance in production technology of commercial flowers and nursery development & orchard management. These findings were in the line with the findings of Raahalya & Sreeday (2021) [5].

Plant Breeding, Seed Technology, Agri. Microbiology and other areas: Majority (80.00%) of respondents reported that they most needed training on recommended techniques of seed treatment of major crops and different biofertilizers production and use (73.33%).

Extension, Communication and Information: Regarding extension and communication, Majority (78.66%) of the agricultural officers reported that they most needed training on organizing group discussion and meetings (78.33%), effective public speech making (76.66%), mobile-based

agricultural apps and different agricultural websites/ portals (73.33%), how to write effective articles /extension literature, leaflets, folders for farmers use (65.00%) and how to organize successful field days, exhibition, campaigns and tours (58.00%). In most of the times AOs failed to motivate the farmers to adopt the technologies even though they were thorough with the subjects because of poor extension & communication skills, hence they should also be trained in extension & communication technologies. These findings were in the line with the findings of Hanif & Waman (2015)^[1], Mohan *et al.* (2020)^[2], Raahalya & Sreeday (2021)^[5].

Table 2: Training needs of Agricultural officers in different agriculture subject n = 60

Sl. No.	Training Areas	Extent of Need		
		Most needed	Needed	Not needed
A.	Agronomy			
1.	Improved varieties of important crops and choosing suitable varieties in field situation	45(75.00%)	13(21.66%)	00(00.00)
2.	Integrated weed management (identification and control of common weeds of different crops)	38(63.33%)	22(36.66%)	00(00.00)
3.	Different methods of compost and vermi compost making, Green manuring / green leaf manuring	45(75.00%)	15(25.00%)	00(00.00)
4.	Selection of contingency strategies in case of calamities	18(30.00%)	33(55.00%)	08(13.33%)
5.	Integrated farming system	16(26.66%)	39(65.00%)	05(8.33%)
6.	Organic farming aspects / Natural farming	12(20.00%)	38(63.33%)	10(16.66%)
7.	Irrigation and water management of important crops	09(15.00%)	29(48.33%)	22(36.66%)
8.	Production technology of crops	07(11.66%)	38(63.33%)	15(11.66%)
B.	Soil Science			
1.	Soil & Water samples collection, Importance of soil testing	52(86.66%)	08(13.33%)	00(00.00)
2.	Showing of nutrient deficiency symptom and management	29 (48.33%)	31(51.66%)	00(00.00)
3.	New chemical fertilizers, Use of different fertilizer, time and method of application	19(31.66%)	31(51.66%)	10(16.66%)
4.	Reclamation of problematic soils, Acid soils-fertility management and problems	11(18.33%)	32(53.33%)	17(28.33%)
5.	Integrated fertilizer management,	06(10.00%)	38(63.33%)	16(26.66%)
6.	Soil conservation measures	10(16.66%)	28(46.66%)	22(36.66%)
C.	Entomology			
1.	Symptoms and control of important pests of pulses	51(85.00%)	09(15.00%)	00(00.00)
2.	Identification of important pest of agricultural/horticultural crops, their biology and management	47(78.33%)	13(21.66%)	00(00.00)
3.	Integrated pest management of important crops	42(70.00%)	18(30.00%)	00(00.00)
4.	Trade name, chemical name, their formulation, correct use and properties of pesticides	22(36.66%)	33(55.00%)	05(8.33%)
5.	Pest survey and estimation of losses and forecasting	27(45.00%)	33(55.00%)	00(00.00)
6.	Biological method of pest control	29(48.33%)	29(48.33%)	02(3.33%)
7.	Storage insect pests and their management	15(11.66%)	29(48.33%)	16(26.66%)
8.	Precautions in handling and storing of pesticides and use of antidotes in case of accidents	10(16.66%)	29(11.66%)	21(35.00%)
9.	Rodent pest management	16(26.66%)	27(11.66%)	17(28.33%)
D.	Plant pathology			
1.	Identification of diseases and their control in important crops	49(81.66%)	11(18.33%)	00(00.00)
2.	Symptoms and control of important diseases of pulses	49(81.66%)	11(18.33%)	00(00.00)
3.	Integrated management of plant diseases	39(65.00%)	21(35.00%)	00(00.00)
4.	Fungicides and their application	38(63.33%)	12(20.00%)	10(16.66%)
5.	Diseases survey and estimation of losses and forecasting	22(36.66%)	28(46.66%)	10(16.66%)
6.	The nature of damage of nematodes and their management, Importance of nematicides used in different crops	17(28.33%)	29(48.33%)	14(23.33%)
E.	Horticulture			
1.	Post-harvest technology of different crops	05(8.33%)	33(55.00%)	22(36.66%)
2.	Growing vegetables/ flowers in poly-house/green house	06(10.00%)	30(50.00%)	24(40.00%)
3.	Nursery development and orchard management	00(00.00)	20(33.33%)	40(66.66%)
4.	Advance in production technology of commercial flowers	00(00.00)	23(38.33%)	37(61.66%)
5.	Different propagation methods	00(00.00)	17(28.33%)	43(71.66%)
6.	Method of pruning, grafting and staking	00(00.00)	26(43.33%)	34(56.66%)
F.	Extension, Communication and Information			
1.	Organizing group discussion and meetings	47(78.33%)	13(21.66%)	00(00.00)
2.	Mobile-based agricultural Apps, Availability of different Agricultural websites/ portals and its Contents and use of Agricultural Expert systems, Social networks, Acquisition of information from different sources	44(73.33%)	16(26.66%)	00(00.00)
3.	Effective public speech making, How to give appealing extension talk	46(76.66%)	14(23.33%)	00(00.00)
4.	How to plan, organize successful farmers training programme, organizing field visits, method and result demonstration of improved technologies, farmers trails	32(53.33%)	28(46.66%)	00(00.00)

5.	How to write effective articles /extension literature, leaflets, folders / report for farmers use	39(65.00%)	21(35.00%)	00(00.00)
6.	How to organize successful field days, exhibition, campaigns and tours	35(58.33%)	25(41.66%)	00(00.00)
7.	Ideas about current agriculture development programmes	33(55.00%)	17(28.33%)	10(16.66)
8.	Concept, procedure and consideration in monitoring an extension programme	04(06.66%)	34(56.66%)	22(36.66)
9.	Preparation of audio-visual aids for teaching	07(11.66%)	34(56.66%)	19(31.66%)
10.	Preparation and submission of reports	00(00.00)	27(45.00%)	33(55.00%)
11.	How to write Script for Radio & TV programmes, How to give radio and TV talk, How to write good success story, news article etc	17(28.33%)	29(48.33%)	14(23.33%)
12.	Moral building and development, Identification and making use of village leaders, contact farmers in technology dissemination	10(16.66%)	34(56.66%)	16(26.66%)
13.	How to motivate and encourage farmers to adopt recommended practices or new technologies	19(53.33%)	26(43.33%)	15(25.00%)
14.	How to carryout various agricultural programmes of the department successfully	12(31.66)	28(46.66)	20(33.33)
G.	Other areas (Plant Breeding, Seed Technology, Agri. Microbiology etc)			
1.	Quality seed production, Seed testing techniques and seed certification	10(16.66%)	27(45.00%)	23(38.33%)
2.	Recommended techniques of seed treatment of major crops	48(80.00%)	12(20.00%)	00(00.00)
3.	Varietal description of important crop	12(20.00%)	34(56.66%)	14(23.33%)
4.	Different biofertilizers (Azolla and Trichoderma production and use)	44(73.33%)	16(26.66%)	00(00.00)
5.	Marketing of produce, Schemes and Programmes,	05(08.33%)	23(38.33%)	32(53.33%)

Conclusion

The study has revealed that a majority of the Agricultural officers required medium to high level of training. Therefore there is need to upgrade the knowledge and skills of agricultural officers in identified areas of agricultural technologies. Based on findings of the study, training programmes have to be planned well by the training institutes and agriculture department should take into consideration of the training needs of the Agricultural officers so that they may acquire and upgrade their knowledge and skill in the new techniques. The major training needs identified in different agriculture and communication technology were pests and disease management of important crops of the area, improved varieties of important crops, compost and vermi compost making, importance of soil testing, nutrient deficiency symptom & management, seed treatment, production and use different bio inputs, post-harvest technology of different crops. Organizing successful group discussion, meetings, field days, exhibition, demonstration, effective public speech making, preparation of audio-visual aids, mobile-based agricultural apps and different agricultural portals, writing effective articles /extension literature, leaflets, folders for farmers use. It is, therefore, suggested that agriculture department, should keep in view the above subject and plan the training program on these subject involving both knowledge and skill.

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