

Knowing and Learning: Views of Extension Agents concerning their Training Needs for Agriculture and Rural Development in Myanmar

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Abstract

The main purpose of this paper is to examine how the agricultural training program in Myanmar could be improved by analyzing the perceptions of experienced extension agents towards their needs of further training. Although the Agricultural University and Institutes provide courses on basic sciences and various aspects of agriculture in their curriculum, only teach agricultural extension subjects during the students' final year of study. These training institutions have a vital role to play in development of agricultural knowledge. A number of in-service training for extension agents conducted at the Central Agricultural Research and Development Training Centre and the Central Agricultural Research Institute were mostly crop production oriented trainings. Training in extension education has been scarce. Much of these training emphasized on new technical knowledge and one-way communication skills needed for the transfer of technology. There was continuing emphasis on theory rather than practice and a lack of training needs analysis. The lack of skilled and well-trained personnel in agricultural extension is the main problem of current agricultural extension services in Myanmar. To improve performance and increase the motivation and job satisfaction of extension agents, a greater need for continuous training and guidance in respect to extension methods and content is required.

Introduction

In the process of developing the agriculture sector, conducting training and offering educational programs of international standard are crucial to the development of human resources. In Myanmar there are 7 State Agricultural Institutes and the Yezin Agricultural University. In addition, there are a number of national agricultural research institutes that provide a number of training in different areas for extension agents and agriculturists. In addition to the high education offerings, different types of in-service trainings are being carried out at the Central Agricultural Research and Development and Training Centre (CARTC) and the Central Agricultural Research Institute (CARI).

Although the Agricultural University and Institutes provide courses on basic sciences and various aspects of agriculture in their curriculum, only teach agricultural extension subjects during the students' final year of study. These training institutions have a vital role to play in development of agricultural knowledge. A number of in-service training for extension agents conducted at the Central Agricultural Research and Development Training Centre and the Central Agricultural Research Institute were mostly crop production oriented trainings. Training in extension education has been scarce. Much of these training emphasized on new technical knowledge and one-way communication skills needed for the transfer of technology. There was continuing emphasis on theory rather than practice and a lack of training needs analysis. The lack of skilled and well-trained personnel in agricultural extension is the main problem of current agricultural extension services in Myanmar.

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In addition to the government services, some United Nations organisations and international NGOs funded a number of projects in Myanmar. As Myanmar is a military governed country, it has attracted a total of 26 international NGOs, of which three are actively involved with agriculture and forestry extension activities at grass roots level. Both of the UNDP and NGOs provided extension training in participatory methods for their own staff and government extension staff that are working in the project areas. These NGOs and the UNDP have been instrumental in bringing to the extension scene, a greater emphasis on “bottom up” planning and action. Some NGO programs have been recently developed to provide broader understandings of specific target groups in rural areas. The sharing of experiences among these projects has been extremely valuable. The informal networking and joint lobbying resulted in teaming from each other’s experiences, joint papers and workshops.

Purpose and Objectives

The main purpose of this paper is to examine how the agricultural training program in Myanmar could be improved by analysing the training needs of experienced extension agents. The specific objectives of this paper were:

1. Examine the educational qualification of extension agents and their experience in extension
2. Identify training experience of extension agents and their needs of further training to improve the quality of the knowledge and skills.

Methods and Data Sources

This paper is based on field research conducted from January to April 2001 in Myanmar. The field survey was done in seven regions: Ayeyarwady, Yangon, Bago, Magway, Mandalay, Sagaing Divisions and southern Shan State of Myanmar. These regions are agro-ecologically different. The research methods included personal interviews with 60 extension agents and distribution of questionnaire to 70 extension agents from the seven selected areas. The personal interviews focused on the training experience of the extension agents and their needs of further training to improve the quality of their knowledge and skills. The questionnaire focused on the training needs for potential extension agents in six specific topics, namely (1) agricultural extension philosophy, organization and administration, (2) sociological factors, (3) educational process and human development, (4) program planning, (5) communication in extension, and (6) research methods and evaluation in extension.

Key Findings and Conclusion

Educational qualification and experience in extension work

Out of the total 130 respondents through personal interviews and questionnaires, 48 respondents from interview and 59 from questionnaire graduated from the Agricultural University and 12 respondents from interview and 11 from questionnaire completed their agricultural training at the different agricultural Institutes. It is clear that 82% of respondents (107 agents) are University graduates and the rest 18% (23 agents) hold a Diploma in Agriculture. About 20 % of the respondents have more than 25 years of field experience in agricultural extension, 28% have 20-25 years of experience, 24% have 15-20 years of experience, 10% have 10-15 years of experience and the remaining 18% of the respondents have 4 to 10 years of experience in extension.

Training experience of respondents

It is important to analyse the training experience of agents, before identifying further training needs. Each respondent was asked to indicate the training participated in-country as well as abroad. Figure 1 presents a summary of the information that received from the interviewed extension agents about their training experience at the national agricultural research institutes (NARI) during the year 1995 to 2000. The NARI were CARTC, CARI, state and divisional research stations and seed divisions.

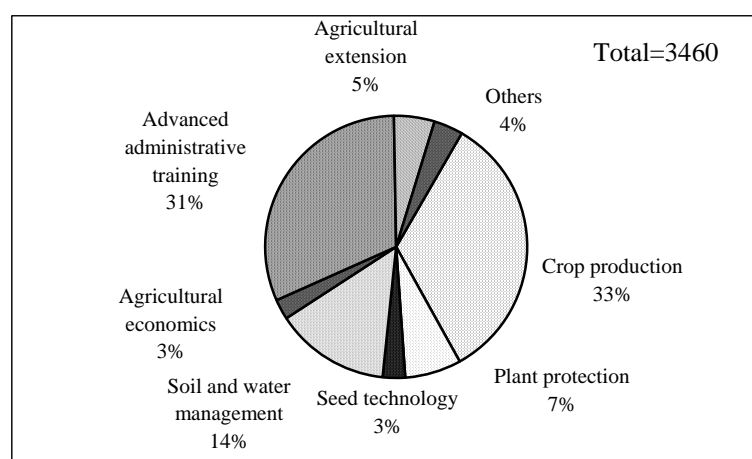


Figure 1: In-country training experience of the respondents (1995-2000)

The total duration of training participated by all respondents during 1995-2000 were 3460 days. Opinions of all respondents (60 agents) indicated that they have participated a total of 33% of their training in the area of crop production, 31% in advanced administrative training, 14% in soil and water management, 7% in plant protection, 5% in agricultural extension, 3% in seed technology, 3% in agricultural economics, and the remaining 4% in other. Advanced administrative training meant that the training, especially for extension agents who possess at least township manager positions, focuses on current agricultural development policies, administration, accounting, and budget. Such kinds of training take one to two months and aim to improve the knowledge and skills of extension agents and to exchange the experience and information between them. “Others” means the other short training course that did not belong to the areas stated above.

The abroad training experience of the respondents during 1995-2000 are presented in table 1. Among 60 respondents, only 9 have attended a total duration of 360 days in different areas of training abroad.

Table 1: Overseas training experiences of the respondents (1995-2000)

Country	Duration (Days)	Trainees	Areas of Training
1. Mexico	120	1	Wheat production technology
2. Thailand	20	1	Sustainable agriculture and rural development
3. Thailand	40	1	Rice production technology
4. Korea	40	1	Rice production technology
5. Japan	40	1	Flower wheat cultivation and processing
6. Nepal	5	1	Agriculture development in mountain regions
7. Thailand	35	1	Post-harvest technology
8. China	20	1	Hybrid rice production technology
9. Japan	40	1	Integrated agriculture and rural development through participation of local farmers

It is clear that the majority of extension agents in Myanmar have more training experience in crop production than any other area. They have few training experiences in agricultural extension, agricultural economics, plant protection and seed technology.

Perceptions of the respondents towards further training needs

In order to improve the in-service training programs providing at the CARTC and the CARI, opinions of agents on their needs of further training to improve their quality in knowledge and skills were investigated. After discussing with a number of experienced extension managers and subject matter specialists of MOAI, ten important subject topics were selected to identify in this study. Table 2 represents the perceptions of extension agents on their needs of further training.

The training in the area of extension education was considered as the greatest need for agents. This topic received the highest mean score of 3.8 by assigning 80% of the respondents as “very much needed” and 20% as “quite needed”. This was followed by the training need in rice production technology with the second highest mean score of 3.77 by assigning 77% of the respondents as “very much needed” and 23% as “quite needed”.

Table 2: Perceptions of extension agents on their needs of further training (N=60)

Training Topics	Frequency ^a		Percent	Mean ^b	SD
	Very much	Quite			
1. Extension education	48	12	100	3.80	0.40
2. Rice production technology	46	14	100	3.77	0.43
3. Market information service	39	21	100	3.65	0.48
4. Pure seed production	36	24	100	3.60	0.49
5. Post-harvest technology	35	25	100	3.58	0.49
6. Pulses and oilseeds crop production technology	33	27	100	3.55	0.50
7. Cropping system	32	28	100	3.53	0.50
8. Industrial crop production	31	29	100	3.52	0.50
9. Plant protection technology	28	32	100	3.46	0.50
10. Farm mechanization	0	5	8	1.83	0.55

^aNumber of very much and quite needed responses

^bScales: 1= not at all needed; 2= little needed; 3= quite needed; 4= very much needed

As rice is the major important crop for domestic consumption as well as for export, the modern and improved technologies for sustainable rice production were being needed. Although there were a number of training courses concerning rice production technology conducted at the CARTC and the CARI, agents thought that they needed further training in improved rice production technology.

The production of pulses and oilseed crops are the second most important target of MOAI after rice production. About 55% of the respondents indicated “very much” and 45% expressed “quite needed” further training in the area of pulses and oilseed crop production technologies. The production of industrial crops, jute, cotton, sugarcane and rubber are the third most important target of the Ministry of Agriculture and Irrigation. Extension agents felt that industrial crop production technology training is also important for agents. This topic was indicated as “very much needed” by 52% of the respondents and “quite needed” by 48% of the respondents.

In order to achieve the high yield, application of pure seed and systematic post harvesting and storage are very important. Therefore, training concerning pure seed production technology and post harvest handling and storage technology were considered as “very much needed” by 60% and 50% of the respondents respectively. Systematic cropping system is important for the crop production in different agro-ecological zones of Myanmar, this training topic was indicated as “very much needed” by 53% of

the respondents and “quite needed” by 47% of the respondents. Due to the continuous growing of rice (at least 2-3 times per year), various kinds of pest and diseases are infested in farmers’ fields. As a consequence there is a great loss of rice yield still now. Training in plant protection technology is also quite important for extension agents. This topic was indicated as “very much needed” by 47% of the respondents and “quite needed” by 53% of the respondents.

Although training about market information service has been conducted for extension agents, this was not enough. This topic was indicated as “very much needed” by 65% of the respondents and “quite needed” by 35%. All respondents (60 agents) answered “very much” and “quite” needed for all training topics identified in this study except the last one “training in farm mechanization”. This topic received the lowest mean score of 1.83. This is the responsibility of the Farm Mechanization Department and not directly concerned to the Agricultural Extension Division.

It can be concluded that training in extension education, market information service, seed technology and post-harvest technology are very important need for extension agents to improve the quality of their extension work effectively.

Training methods and length of training

After discussing with a number of subject matter specialists, extension managers and extension agents from MAS, seven training methods were selected to identify in this study. Opinions of all respondents on their preference in training methods and length of training are described in table 3 and table 4.

Table 3: Perceptions of extension agents on the different training methods

Methods	Number of respondents (N=60)				Mean
	Very agree (4)*	Agree (3)	Disagree (2)	Very disagree (1)	
1. Group training workshop	47	13	0	0	3.78
2. Monitoring and evaluation	32	28	0	0	3.53
3. Field demonstrations	12	43	5	0	3.12
4. Distribution of written materials	12	43	5	0	3.12
5. Meetings/campaigns	0	5	45	10	1.92
6. Transporting of information	0	0	40	20	1.67
7. Management	0	0	35	25	1.58

* Figures in brackets indicating assigned scores for the corresponding methods

Data in table 3 shows that all respondents indicated training by group working or training workshop and by monitoring and evaluation as “very agree and agree”. These two methods received the highest mean scores of 3.78 and 3.53 respectively.

Table 4: Perceptions of extension agents on the length of training

Length of training	Number of respondents (N=60)				Mean
	Very agree (4)*	Agree (3)	Disagree (2)	Very disagree (1)	
Two months	0	9	51	0	2.15
One month	47	13	0	0	3.78
Two weeks	39	21	0	0	3.65
One week	16	28	16	0	3.00
Two days	0	4	52	4	2.00

* Figures in brackets indicating assigned scores for the corresponding statements

All respondents said that “very agree” and “agree” for one month and two weeks training and these two items received the high mean scores of 3.78 and 3.65 respectively. About 73 percent of respondents answered that they prefer one week training depending on the subject and this item received the mean score of 3. Most of respondents are not interested in two months and two days training because they thought that 2 days is too short and two months is too long.

It is evident that extension agents prefer training by group training workshop as well as monitoring and evaluation with the duration one to four weeks.

Perceptions of experienced agents to training needs for potential extension agents

In order to improve the pre-service training program for potential extension agents, opinions of respondents were analysed. Potential extension agents mean students just finished at the agricultural University and the agricultural Institutes who have been provided pre-service training at the Central agricultural research and training centre or the central agricultural research Institute before they are going to work in farmers’ fields as village extension agents. After discussing with a number of extension managers and subject matter specialists from MOAI and reviewing the related literature, six specific training topics were selected as the training needs for potential extension agents. Perceptions of the respondents on importance of needs are compared by rank as well as mean values in table 5. Rank 1 to 6 meant the first priority need to the sixth priority need for training respectively.

Table 5: Perceptions of respondents towards training needs for potential extension agents

Training Topics	Number of responses (N=70)						Mean	SD
	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6		
Extension program planning	35	25	10				3.64	0.48
Educational process and human development	32	26	12				3.64	0.48
Research methods and evaluation	3	15	40	12			3.63	0.49
Agricultural extension philosophy, organisation and administration		4	8	48	10		3.54	0.50
Communication in extension				10	38	22	3.49	0.49
Sociological factors					22	48	3.31	0.50

Scales: 1= not at all needed; 2= little needed; 3= quite needed; 4= very much needed

The need for training in the area of program planning was rated as the rank 1 by 50% of the respondents, rank 2 by 36% and rank 3 by the remaining 14%. Analysing the agricultural situation in the local areas stands out as the most important topic for which agents have the greatest need for training in program planning. Respondents apparently believed that it was important for agents to learn how to analyse problems in the local areas before attempting to find solutions.

Training need in the area of education process and human development was rated as the rank 1 by 46% of the respondents, rank 2 by 37% and rank 3 by the rest 17%. Training in extension teaching methods, principles of extension and teaching-learning process appeared to be of major concern to potential extension agents.

The need for training in research and evaluation was rated as the rank 1 by only 4% of the respondents, rank 2 by 22%, rank 3 by 57% and rank 4 by the remaining 17%. All the respondents felt that training about the role of research in extension, conducting surveys, effective use of research findings, as the greatest importance for training needs of potential agents. This topic received the second highest mean score of 3.63.

The next training need in order of importance was agricultural extension philosophy, organization and administration. This topic received a high mean score of 3.54 by assigning 54% of the respondents as “very much needed” and 46% as “quite needed”. This was rated as rank 4 by 69% of the respondents.

Opinions of respondents indicated that training about communication in extension was “very much needed” by 51% of the respondents, “quite needed” by 46% of the respondents and “little needed” by the remaining 3% of the respondents. This was rated as the rank 5 by 54% of the respondents, rank 4 by 14% and rank 6 by the remaining 17%. The high rating of training needs in the area of communication by extension agents indicates a feeling that the successful performance of the agents in their jobs depends largely on the ability to communicate with farmers.

The need for training in the area of sociological factors was indicated as “very much needed” by 37% of the respondents, “quite needed” by 57% of the respondents and “little needed” by the remaining 6% of the respondents. This was rated as the rank 6 by 69% of the respondents and rank 5 by the remaining 31%.

It was noteworthy that all six areas of training identified in this study were perceived to be important for potential extension agents. Since the scale ranged from one to four, the lowest mean score of 3.31 was relatively high on the scale and meant that it was of considerable importance in the training needs of agents. Respondents expressed their opinions based on their knowledge and experience in performing extension activities at farmers’ fields, knowledge that they learned in University or Institutes and pre-service as well as in-service training.

Recommendations

Although the CARTC runs a number of courses for extension agents from township and village levels in a range of technical management training, most of the training is crop production oriented training. Training in agricultural extension and economics are very few and inadequate. Much of the training is on new technical knowledge and one-way communication skills needed for the transfer of technology. To improve performance and increase the motivation and job satisfaction of extension agents, a greater need for continuous training and guidance in respect to extension methods and content is required.

Based on the research findings the following training topics are recommended: In-service training programs should be emphasized more training in agricultural extension education and agricultural economics. In addition, training in post-harvest technology and seed technology should be emphasized. Pre-service training programs should be provided more emphasis on training in extension program planning, educational process and human resource development, and research methods and evaluation. Furthermore training in agricultural extension philosophy, organization and administration, the use of information and communication in extension, and sociological factors should be conducted. Many of these social science skills are lacking in the agricultural graduates working as extension agents in the Agricultural Extension Division.

A recommendation common to all responses of extension agents from personal interviews and questionnaires is that the social component of the in-service training program as well as pre-service training program should be developed and increased. The information from this study will be used as a basis and guide for developing the future training programs for field extension agents and pre-service training for newly recruited agricultural scientists, such that their trainings at CARTC and CARI will have more relevance to the work they later perform in the government extension services.

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