THE KNOWLEDGE LEVEL OF FARMERS TOWARD AGRICULTURAL EXTENSION IN LUBLIN PROVINCE –POLAND

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ABSTRACT: *This article aims to identify the level of knowledge to farmers in Lublin province toward the agricultural extension in general, and to identify the farmers' knowledge level in each item of the knowledge level scale, and find a correlation relationship between level of knowledge to farmers and independent variables included in this article. The results showed that the level of knowledge to farmers towards agricultural extension in general is (medium) in Lublin province. The results also showed level of knowledge to farmers high in the following items(agricultural extension helps farmers on how to eliminate the insects and diseases that affect the crops, agricultural extension helps farmers on the proper use of pesticides). The results showed also there is significant correlation between knowledge level of farmers and variables (sources information), while results did not show a significant correlation between knowledge level and independent variables (age, education, size of farm, average yields).*

KEYWORDS: Agricultural, Extension**,** Knowledge Level**.**

INTRODUCTION

The term "extension" was first coined in England during the 1840s to describe the method of spreading knowledge from the University of Cambridge to the great mass of people outside its walls by Richard Moulton, a lecturer in literature in 1867. Oxford University then became the second university to introduce it into their curricula. Lecturers would organise outreach programmes to various towns to teach adults who were too busy to attend formal education, particularly those employed in factories. Although this teaching was not focused on agriculture, it featured the four elements common to modern agricultural extension programmes: (The knowledge to be extended, the people to be served, a central extension organization, the extension agent or contact man (Ministry of Agriculture 2000).

Agricultural extension is a highly developed and successful sector in most industrialised countries. However, in developing countries the degree of success varies from country to country. Extension services were first introduced in the middle of the nineteenth century, and later towards the end of the century, deliberate efforts to create extension services became common. The need to disseminate new knowledge among farmers, to extend it beyond the walls of the universities and research stations became apparent. In addition, widespread agricultural problems such as outbreaks of crop disease and adverse economic conditions affecting levels of production required that farmers be given assistance to overcome such difficulties or to adapt to circumstances. For this reason, it became necessary to recruit and organise bodies of trained, specialised extension personnel whose task would be to go out and

visit the farming community to offer information and guidance on the principles of good crop and animal husbandry, and possibilities of change open to it through the adoption of proven, tested and acceptable technology or any other recommended farming practices.

Extension in essence remains an educational function. However, the working and the responsibilities entrusted to extension may vary from one country to another, but without exception, it aims at providing information, giving advice and imparting education (Rivera et al., 2002; Altalb 2015). However, agricultural extension services are established to improve the knowledge and skills of farmers on farming practices, and make their attitudes positive towards agricultural innovations. Whereas the extension service organizations are supposed to establish a pleasant working relationships within the organization. Also they are meant to be complementary rather than competitive in relationships with all other institutions, services, private industries, and organizations working for the realizing sound agriculture and betterment of rural people. Davis (2008) described the concepts of extension by coining many definitions and noted that numerous approaches and methods have been placed at the disposal of extension service to carry out extension activities. However, with the advent of recent developments, views on what extension is all about, have been quite changed. Previously it was believed that extension only provides research-based knowledge and information to the farmers aiming at improving the livelihoods of the farmers. Yet, today the understanding for extension and its working philosophy both have been changed considerably. The agricultural extension was primarily undertaking technology transfer activities in the past but now it also focuses on the facilitation of all the steps involved in the whole farming process. Today, extension goes beyond training, learning and helping farmers in forming farmer groups. Now in its wider working sphere, it also takes initiatives to address the marketing issues and joins hands to enter into partnerships with the wide-range of service providers and other related organizations (Birnor et al., 2006). State that today agricultural extension is partner of all those organizations that support, facilitate and assist the farming communities involved in agricultural production. These organizations primarily address the farming issues. Farmers obtain information, attain skills, and seek superior technologies from these organizations to improve their livelihoods and well-being. (Aldosari 2013).

The agricultural extension services are very important in development of rural knowledge and innovation system for farmers. These services are the key in informing and influencing rural household decisions, especially in the developing countries which are generally more in need for such guidance services (Alex & Zijp 2002; Garforth 2011). The goals of agricultural extension include transferring information from the global knowledge base and from local research to farmers, enabling them to clarify their own goals and possibilities, educating them on how to make better decisions, and stimulating desirable agricultural development (vander Ban and Hawkins 1996).

Thus extension services provide human capital–enhancing inputs, including infor-mation flows that can improve rural welfare for farmers (World Bank 2002).

Agricultural extension activity is an important agrarian-political instrument of the state, which stimulates the development of agricultural production. Agricultural extension services must be designed to develop agricultural skills among farmers, teach them communicate efficiently with producers and stimulate them to acquire new knowledge(Qamar 2005; Mahmudul Haq 2012). Extension service in agriculture is indispensable and it offers more than just expert assistance in improvement of production and processing, it also enables a flow of information

and transfer of knowledge and scientific findings (Comer & Birkenholz and Stewart 2004; Qamar et al., 2005).

Extension is both a political and an organizational instrument implemented to facilitate development and it is ranges from transfer of mono-crop technology to participatory problem solving educational approaches, which aims at reducing poverty and enhancing community involvement in the processes of development (Rivera and Qamar, 2003; Altalb 2015).

Agricultural extension works in a wider knowledge system that embraces different components of which research and agricultural education are some (Rivera, et al 2001; Altalb, et al 2015). According to Jones and Garforth (1997), agricultural extension is important because in the first place, information about good or new agricultural practices in a particular environment from research station or farmers experience can be assembled, synthesized and made available to use. Secondly, this information can be used especially for educational purpose to further investigate it or to disseminate knowledge. Thirdly, it results in creation of organizational and administrative setup which can make dissemination of technologies easier. Natural calamities such as famine, crop failure and problems like soil degradation and economic crises can also result in immediate initiation of extension work.

As a result for agricultural extension importance in achieving in rural and agricultural development, it is necessary to conduct studies and research in order to identify the information and knowledge possessed by farmers about the importance of agricultural extension and its role in the development of the agricultural sector and agricultural development. It has been selected for the Lublin province - Poland for the implementation of this research, because it is an agricultural area and contain many of the farmers. The research aims to identify the level of knowledge to farmers towards agricultural extension in general, identify the farmers' knowledge level in each paragraph(question)of scale in article, identify the correlation between the knowledge level of farmers with independent variables in this article.

METHODOLOGY

The research covered farmers in Lublin province - Poland. Where, it was relying on the farmers according to the size of farm, according to farmers who have the farm (5-50 ha). It has been taken the Intentional sample from farmers and numbered (100) Farms.

For the purpose of collecting data from farmers, it has been designed (questionnaire form), especially for this purpose. It consists of two parts. The first part includes the independent variables related to farmers (age, education, size of farm, sources information on the use of fertilizers, average yields).

The variable (age) was measured through (number of years for farmers at the time of data collection). The variable education was measured through three levels (primary, secondary, high school). The variable (size of farm) was measured through the three categories (1-25), (26-50), (51-75). The variable (sources information about use of fertilizer) was measured through the following alternatives (agricultural-extension agricultural - Programmes of T.V - the Outstanding farmers). The variable (average of production), was measured through writing the amount of output obtained by the farmers for each hectare.

The second part of the questionnaire guarantees the (20) paragraph (questions), concerning the role of agricultural extension in the various agricultural and rural development, which have been prepared (items or questions) through a review of research and references relating to agricultural extension, and through field visits to some farmers in Lublin province.

The knowledge level of farmers was measured toward agricultural extension through the scale, it consist of (4) alternatives), was placed in front of each question four alternatives to answer, namely, (I know significantly - learn moderately - learn a few degree - I do not know). These alternatives were given the following numbers (4-3-2-1) and respectively. Through the sum the answers final to each farmer to Questions, we will get a final grade of the scale, they represent (knowledge level of farmer towards the agricultural extension). It has been used (way of range) in the division of the independent variables and the dependent variable of variables. After the questionnaire completed. The data was collected during the period of (August and September 2015), and then was unloaded the data and statistically analyzed through the use of (the percentages, median, and the Pearson correlation coefficient, Spearman correlation coefficient).

RESULTS AND DISCUSSION

I identify the level of knowledge to farmers in Lublin province toward the agricultural extension in general:

The results showed that (the values of numeric theory) obtained by the farmers and the mouthpiece of the level of knowledge to farmers towards agricultural extension, and the highest value is (80) and less value is (20). It is the values that represent a level of knowledge to farmers. Farmers were distributed into three categories according to the level of their knowledge about agricultural extension, as shown in the table (1):

Table 1. The distribution of farmers according to the level of their knowledge towards agricultural extension in general.

Categories	Number of farmers	Percentage %
(20 – 40)	10	10
(41 – 61)	74	74
(62 – 82)	16	16
Sum	100	100

Average of knowledge level (52).

The table (1) shows that the highest proportion of farmers were in the medium category (41-61), which accounted for (74%). This indicates that the level of knowledge to farmers towards agricultural extension is medium.

I identify the level of knowledge to farmers in Lublin province toward the agricultural extension in each item (Questions) in the scale of knowledge level:

It has been identified on the knowledge level of farmers in each item(question) of the search and it has been arranged in descending order, based on average farmer answers to each question (response rate the farmers to each question). As shown in table (2).

Table 2. The distribution the items (questions) of search, according to the average of farmers' knowledge.

No.	(Items) Questions	Average of knowledge level
1	Agricultural extension helps farmers on how to eliminate the insects and diseases that affect the crops .	7.010
2	Agricultural extension helps farmers on the proper use of pesticides.	6.871
3	Agricultural extension helps farmers on the proper use of fertilizers.	6.455
4	Agricultural extension contributes to the training of farmers in different areas of agricultural work.	6.436
5	Agricultural extension methods help to transfer of agricultural information and new knowledge to farmers.	6.000
6	Agricultural extension helps in providing farmers with information and new agricultural technologies for agricultural production.	5.941
7	Agricultural extension plays an important role in livestock development.	5.822
8	Agricultural extension helps farmers to solve their problems on their own.	5.500
9	Agricultural Extension contributes to the increase of agricultural production in quantity and quality.	5.327
10	Posters and bulletins of extension help to increase information and knowledge farmers in the cultivation of different crops.	5.208
11	Agricultural extension helps farmers to exploit the agricultural land in scie.	5.188
12	Agricultural extension contributes in help of rural women.	5.069
13	Agricultural extension helps farmers how to use agricultural mechanization in agriculture.	4.970
14	Agricultural extension helps on how to exploit the natural and human resources in rural areas.	4.752
15	Agricultural extension helps farmers on the water management in agriculture.	4.614
16	Agricultural extension has important role in agricultural marketing.	4.554
17	Agricultural extension helps farmers on how to carry on apiculture.	4.257426
18	Agricultural extension contributes in help of rural youth.	4.257

| 19 | The visits of workers agricultural extension to the farmers farms, will be help solve farmers' problems. | 3.500 |
| 20 | Agricultural extension contributes in the development of the fisheries. | 2.693 |

The previous table shows, items(questions) that took the first three sequences (according to the knowledge level of farmers) and respectively, are (agricultural extension helps farmers on how to eliminate the insects and diseases that affect the crops, agricultural extension helps farmers on the proper use of pesticides, agricultural extension helps farmers on the proper use of fertilizers). This means that farmers have the information and knowledge in these paragraphs (Questions) to the agricultural extension.

The items (questions), that took the last three sequences, according to the level of farmers' knowledge to these items, and respectively, are (agricultural extension contributes in the development of the fisheries, the visits of workers agricultural extension to the farmers out of farms, will be help solve farmers' problems, agricultural extension contributes in help of rural youth). This means that farmers have low information and knowledge in these paragraphs towards the agricultural extension.

Identify a relationship between level of knowledge to farmers and independent variables in the article (age, Education, size of farm, Sources information on the use of fertilizers, average yields):

The age: It has been shown that the highest age for farmers (64 years), and the less age (35 years), and an average of (44 years old). When the farmers was distributed according to age categories, showing that the age category (45-54 years) was higher, and stood ratio at 75%. Also found there is no significant correlation between the ages for farmers and knowledge level for farmers toward agricultural extension, the Value of Pearson correlation coefficient was (0.482), at the level of significance (p.-0.05). As shown in the table (3). It means that the level of knowledge to farmers towards agricultural extension not depend on age of farmers, but depends on other variables.

Education: When the farmers was distributed according to education groups, showing that the education category (secondary) was higher, and stood ratio at   (61%). Also found there is no significant correlation between education level for farmers and knowledge level for farmers toward agricultural extension, the value of Spearman correlation coefficient was (0.110), at the level of significance (p.-0.05). As shown in the table (3). It means that the level of knowledge to farmers towards agricultural extension not depend on the level of farmers education, but maybe depend on other variables.

Size of farm (hectare): Farm size: It has been shown that the highest volume for farms was (75 hectare), and less size (1 hectare) and the average (35 hectares). When the farmers was distributed according to categories of size of farm, showing that the category(1-25 hectare) was higher, and stood ratio at (70%). Also found there is no significant correlation between the size of farm and knowledge level for farmers toward agricultural extension, the value of Pearson correlation coefficient was (0.17211), at the level of significance (p.-0.05). As shown in the table (3). It means that the level of knowledge to farmers towards agricultural extension not depend on the small farm or big farm, but depends on other variables.

Sources of agricultural information: It has been shown that the highest numeric value for the sources of information, is (151) and the lowest value (15), and an average of (82), when the farmers was distributed according to categories for sources of agricultural information, showing that the category (61-105) was higher, and stood ratio at (89%). Also found there is significant correlation between the sources of agricultural information for farmers and knowledge level for farmers toward agricultural extension. The value of Pearson correlation coefficient was (** 0.036), at the level of significance (p.-0.05). As shown in the table (3). It means that the level of knowledge to farmers towards agricultural extension depends on the sources of information of agricultural for farmers, reason is, if the farmers use more sources of information about the agricultural extension, it will lead to the increase the knowledge of farmers towards agricultural extension.

Average production: It has been shown that the highest of (average production) is (8.5 tons per hectare) and the lowest average was (3.5 tons per hectare) and an average of (5 tons per hectare).

When the farmers was distributed according to categories of average production, showing that the age category (5.2- 6.8) ton, and stood ratio at (71%). Also found there is no significant correlation between the average production for farmers and knowledge level for farmers toward agricultural extension, the value of Pearson correlation coefficient was(- 0.05811), at the level of significance (p.-0.05). As shown in the table (3). It means that the level of knowledge to farmers towards agricultural extension not depend on average production for farmers, but depends on other variables.

Table 3. The distribution of farmers into categories according to the independent variables and its relationship with knowledge level for farmers towards agricultural extension.

Categories	Number	Percentage %	Value of Pearson correlation coefficient	Value of Spearman correlation coefficient
1. Age				
35- 44	18	18		
45 - 54	75	75	0.482	
55- 64	7	7		
sum	100	100%		
2. Education				
Primary	19	19		
Secondary	61	61		0.110
Higher	20	20		
sum	100	100%		
3.Size of farm (hectare)				
1- 25	82	82		
			0.17211	
26 - 50	12	12		
51 - 75	6	6		
Sum	100	100%		

4. Sources of information				
15 - 60	7	7	** 0.036	
61- 105	89	89		
106 - 151	4	4		
Sum	100	100%		
5.Average yields				
3.5 – 5.1	14	14	- 0.05811	
5.2- 6.8	71	71		
6.9 – 8.6	15	15		
Sum	100	100%		

** $p < 0.05$

(**) Significant at the level of probability (0.05).

CONCLUSIONS

Depending on the results of the article, we deduce from the following:

- The knowledge level of farmers towards agricultural extension in Lublin province is medium. This is indicates that farmers have the information and knowledge with regard to the role of agricultural extension in rural and agricultural development.
- Farmers in the Region Lublin, have high knowledge on the subject (agricultural extension helps farmers on how to eliminate the insects and diseases that affect the crops). Also they are suffering also from a lack of knowledge in the subject (agricultural extension contributes in the development of the fisheries.).
- The variable (sources information) play the role in the development of the cognitive level of farmers towards agricultural extension.
- The variables (age, education, size of farm, average yields) does not have a clear role in the development of the cognitive level of farmers towards agricultural extension.

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