

Sheep Farmers' Problems Accessing in Extension Information in Erbil, Northern Province of IRAQ

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ABSTRACT

The extension is an informal educational process (change knowledge, skills, and attitudes), directed toward rural population. This study aims to determine and analyze the participation of sheep farmers in the extension activities process and to make recommendations on how farmer's participation in extension activities in Erbil, Northern Province of Iraq. The study utilized data from randomly selected 180 sheep farmers through face-to-face interview using a semi-structured questionnaire containing the principal information. The important knowledge has been obtained making use of a structured questionnaire and has been analyzed using the instrumentality of descriptive information, frequency, and Chi-square test. The result of the data analysis showed that most of the sheep farmers (82.8%) are male. According to results veterinary department is the main source of extension information (87.2%) followed by neighbors and friends (69.4%). The results of the chi-square test showed that gender had maximum effect on the knowledge of information in livestock activity ($P < 0.05$). Moreover, friends and neighbors, civil institution and training course have a highly significant relationship with the farmers and their accessing to agricultural extension services ($P < 0.05$). The results of this study indicated that sheep farmers in the research area are aware of knowledge and the best management practices however the level of extension information is far from being desired.

Keywords: Rural farmers; Sheep farming; Extension; Knowledge;

Livestock produces about 30 per cent of the agricultural gross domestic product (GDP) in the developing world, and about 40 per cent of the global GDP. Due to growing populations, increasing urbanization, the demand for livestock products is the quickest growing agricultural market, especially for the merchandise in which smallholders can also be aggressive (Swanepoel *et al.*, 2010). Livestock production constitutes an awfully predominant aspect of the agricultural economy of constructing countries, a contribution that goes beyond direct food creation to include multipurpose uses, similar to skins, fibers, fertilizer and gas, as good as capital accumulation. Additionally, livestock are carefully linked to the social and cultural lives of a few million useful resource-terrible farmers for whom animal ownership ensures varying degrees of sustainable farming and fiscal stability. The key livestock

subsectors are pork, dairy, sheep, goats, camel, poultry, piggery and rising cattle. Agriculture still presents the main source of livelihood and contributes a high-quality percentage to country wide revenue for many constructing nations around the globe (Fadare, 2014).

Iraqi agriculture is characterized by the way of nature and lifestyle of farmers farming sub-sector, whose access to modern science and to that of normal education may be very restricted. It's also noted that there is low funding in developing agriculture and poor labour force is, without doubt one of the issues that stuck the transformation of the sector. Despite these required traits, nevertheless, the sub-sector generates the majority of the total agricultural output of the country (MOA, 2016).

Erbil is a located within the Northeast of Iraq and is one of the largest cities in northern Iraq. It is likely one of the oldest regularly inhabited cities on this planet

and has existed that would be dated back to at least 6000 BC (*Jamil, 2010*). Erbil is placed in a reasonably simple field and has a common elevation of 426 meters above sea degree. Animal husbandry is an essential part of agriculture in the neighbor. Sheep, goats, and cattle are the three major animals raised in the region for the essential products of meat, milk, epidermis, and wool respectively (*Khoshnaw, 2013*).

Agricultural extension in Erbil can be defined as a low input and low output approach. Animal productions are poorly organized in using any comparative requirements and there is shortage in the common agricultural expertise and understanding by farmers in Erbil province. This could also be main reason which has made these farmers stay to their old farming and animal husbandry methods. These have consequences which are leading to terrible crop and animal productivity. Understanding and skills are very crucial within the agricultural progress of any group, they both are poorly distributed. Therefore, they are specified restrictions to the Erbil region's agricultural development. Accordingly, gaining knowledge was designed to examine the restrictions of the agricultural farmers in Erbil province in having access to agricultural expertise.

Through the years, farmers in Iraq depend upon native or neighborhood abilities to improve their animal husbandry. Such abilities refer to skill and experience gained by means of oral regularly and practices over many generations. Such primitive skill via farmers has no longer helped to breed up animal production and products. Researchers showed that the all animal husbandry process via such skills leads to a variety of terrible farm yield. The emergence of animal disease regulations and agricultural knowledge are always meant to pleasant farmers through extension agents, radio, television, agricultural printed substances, and state or local government agricultural companies. Farmers have to make extra effort to access this knowledge and understanding from available sources. To understand better in animal husbandry method and improve animal production and products, farmers are confronted with choosing chains. The present study is proposed to determine the constraints which restrict farmers in the study subject of Erbil province from getting access to expertise for accelerated and better animal husbandry practice.

Literature showed that farmers, especially small

size farmers, are not mostly getting information at the right time and places (*Budak et al. 2012; Nlerum and Owen, 2015; Haile, 2016*). This is one of the most important reasons for low level of productivity and income. The research aims to find out what could be the best practices to promote the achievement of farmer's participation in extension activities in Northern Iraq and in this manner to enhance development in the region based on the identification of the most promising practices and lessons learned to date. In order to meet this goal, the objectives of this study have been identified to analyze the participation of sheep farmers in the extension activities process and to make recommendations on how farmer's participation in extension activities are.

This study aimed to recognize the way in which the farmers perceived the extension offerings. Understanding this, extension carrier providers can be aware of what pleasant is accomplished to fulfill goal team wants and adoptive advancement of the agricultural sector by using encouraging extra farmers to take part in extension training and the given technologies. Farmers' receptivity to training largely depends on the use of several educational methods by the veterinary department to reach farmers. Therefore, this study helped to identify farmers' most preferred methods so as to improve their receptivity of extension education programs and, hence, their success and eventual improvement of sheep production.

METHODOLOGY

Erbil city consists of 1243 villages in 30 districts. There are more than 18101 sheep farmers. Qushtapa is a town located 17 km a long way from the south of Erbil city; it compromises of more than 51 villages with more than 530 breeding fields.

The research was designed to get both qualitative and quantitative data in nature. A total number of 180 sheep farmers from 19 villages have been chosen from within the Qushtapa area of Erbil province. The data used in this study was taken within the type of interviews with the farmers through the usage of the well-structured questionnaire.

In order to pursue the objectives, the research proposed to use triangulation method for instance, descriptive, comparative...etc., which reflects an attempt to secure in-depth understanding of the

phenomenon under study. Data were collected using an interview schedule; the questionnaire was developed in English. The questions were ad-libbed, that is, asked the questions in the local language and recorded the responses in Kurdish. Research and data collection assistants travelled to each ward in a vehicle from Qushtapa –Erbil. Before the interview in each village, the researcher gave a briefing of what the study was about to the respondents, and then the data collectors began the interview. Respondents were notified, at least a day in advance of the interview, on where to meet. It took 30 minutes to administer each questionnaire. Questionnaires were the primary tool for information collection. This device used to accumulate primary knowledge from sheep farmer's respondents utilizing both structured and semi-structured questionnaires (open and close-ended).

RESULTS AND DISCUSSION

The major socio-demographic characteristics of farmers covered in the study area are presented in Table 1. These characteristics relate to the relative frequency distribution of farmers by gender, age, education level, and marital status, farm sizes, farming experience, owner's land types, land size, number of sheep. The analysis was based on the information provided in the questionnaires during interviews.

The literature showed that gender is the most fundamental characteristics of a population which can reflect population dynamics. Gender of the farmer was used to capture the effect of gender on extension knowledge received. On average, about 83 per cent of the farm owners in the study area were male while 17 per cent were female. It is therefore expected that female are to be less compared to male because in Iraq the scarce resources like finance are owned by males. Our results agree with the results of *Wasihun et al. (2013)* showing that the total number households in the wasihun are 177 male and 48 female headed.

The Table also showed the importance of marital status on agricultural production can be explained in terms of the supply of family labour. The majority of farmers (96.8%) in the study area were married. Almost all male farmers were married and may have the support of their spouses in participating in agricultural extension activities that may improve agricultural production and household nutrition. My results are same with the results

of *Haile (2016)*, *Nlerum and Owen (2015)*. They reported most of farmers are married.

The Table also showed the ages of farmers were one of the demographic characteristics hypothesized to influence agricultural output; age is very important as it influences one's behavior and widens the vision of an individual through experience. The average age of farmers in the research area was 46.19 and the majority of rural farmers (49.40%) were aged between 40-59 and 31.70 per cent were having age less than 39. Farmers accounted for 18.90 per cent were in age higher than 60 years. The results of the present study are in line with those of *Haile (2016)*, *Rehman et. al. (2013)* and *Omobolanle (2008)* who found that most of the respondents belonged to middle age category.

The education is also one of the important variables, which increases farmer's ability to acquire process and use agricultural related practices. The low level of literacy among female-headed households may negatively influence their participation in and utilization of agricultural extension service that may improve agricultural production and nutrition less than male-headed households with relatively higher literacy rate. Results imply that illiteracy was very high among the respondents in the study area in which it can be interpreted as a possible obstacle in applications of modern technology in various productive activities. This is also in agreement with a research conducted by *Adekunle (2013)*, *Fawole and Tajani (2013)* and *Haile (2016)*.

According to the findings, the meaning of family size in agriculture depends on the availability of labor for farm production. Normally, the larger the family size, the more likely the farmer is to become successful as the farmer has more labor to work on the farm. However, this would only work if all family members are old enough to perform the farm work, otherwise, if the family size consists of a majority of young children who cannot be used as family labor, it will not work. According to results, the average farm size in this study area was 7.39 which are large comparing to developed countries. Results indicated that 22.20 per cent of the farmers have between 1-5 members in the family; the second group (6-8 members) is accounted for 44.40 per cent, which are the majority. The third group (9-15 members) is accounted for 33.30 per cent. This result is in line with the findings of *Haile (2016)*, *Gideon and Miriam (2014)*.

Another related variable to affect sheep farming

is the experience of farmers on sheep farming and animal production. According to the findings, the average farmer's experience was found to be 5.77 years. The majority of the farmer respondents (approximately 49.40%) had farming experience between 5-7 years. Farmers with farming experience between 1-4 years accounted 31.70 per cent of the total respondents. The last farming experience group about 18.90 per cent of farmers had farming experience higher than 8 years. Generally, the findings showed that farmers in the study area had considerable farming experience and the expectation was better farming methods due to many years of skills in food production. Experience of farmer is likely to have a range of influence on extension information. Experience will improve the farmer's skill at production. Farmers with higher experience appear to have often full information and better knowledge and are able to evaluate the advantage of the technology considered. This result of the study is in line with the findings of *Haile (2016)*.

The findings revealed that approximately 42 per cent of farmers had farm sizes less than 35 Donum (1 Donum: 2500 m²). The second category accounted 33.30 per cent was noted to own small fragments of farm sizes ranged higher than 51 Donum. However, the findings revealed that many farm households operated small and fragmented plots in the study area that was used for cultivation of different crop.

Sheep production was a very important activity in the study area. The results of this study indicated that sheep farmers in the research area are aware of extension information and best management practices however the level of information is far from being desired. According to results, farmers were categorized into three categories. The share of the small sized farmers (less than 150 heads) are accounted for 42, 2 per cent. 24, 4 per cent of farmers have between 151–300 heads and 33, 3 per cent of farmers have more than 300 head sheep.

Agricultural information sources suggest that farmers should have the latest information regarding new farming techniques, depending upon the kind of information. Different people use different sources for seeking information. The most commonly used sources of information were fellow farmers, veterinary department, friends / neighbors, and the private sector. The other farmers, friends, and relatives were the most

Table 1. Distribution of the respondents according to socio demographic characteristics

Characteristics	No.	%	
<i>Gender</i>	Male	149	82.78
	Female	31	17.22
<i>Marital status</i>	Single	6	3.30
	Married	174	96.77
<i>Age</i>	≤ 39	57	31.70
	40-59	89	49.40
	≥ 60	34	18.90
<i>Education</i>	Illiterate	131	72.98
	Primary and HS	49	27.02
<i>Farm Size (number of members)</i>	1-5	40	22.20
	6-8	80	44.40
	9-15	60	33.30
<i>Farming Experience</i>	≤ 4	64	31.70
	5-7	67	49.40
	≥ 8	49	18.90
<i>Owner Land types</i>	No Land	58	32.20
	Owner	33	18.30
	Rent	5	2.80
	Convene	85	46.70
<i>Land size (Donum)</i>	≤ 35	76	42.20
	36-50	44	24.40
	≥ 51	60	33.30
<i>Number of sheep's</i>	≤ 150	76	42.00
	151-300	65	36.00
	≥ 301	39	22.00

significant sources of information used by the farmers to get information on sustainable agricultural practices. The study found the biggest rate got the information from that veterinary department with 87.2 per cent and the neighbours and friends with 69.4 per cent, representing the main channels of communicating agricultural information. The results were given in Table 2 where friends and family members provided the highest source of agricultural information to rural farmers in Erbil. Sources of information, like agricultural worker and the neighbors and friends, the private sector, posters, agricultural education institution, TV, agricultural research stations and social media and agricultural company and newspapers and magazines NGOs were the least frequent sources of information of the respondents. Most of them are uneducated and not enough support from the government. Government support includes professional staffs, rules, and recommendations for the research centers. The findings of this study concur with the studies done by *Isaya (2015)*, *Yusuf et. al (2013)*, *Nlerum and Owen (2015)*.

They reported that all farmers dependents and benefits on friends and neighbors in agricultural extension activity.

Table 2. Percentage of respondents by level and way of participating in extension activity

Source of Information	One time	Never
Newspapers and magazines	3.90	96.10
Friends / Neighbors	69.40	30.60
Posters	6.10	93.90
Agricultural education institution	2.20	97.80
Agricultural research stations	1.70	98.30
Agricultural TV programs	7.80	92.20
Veterinary Department	87.20	12.80
Social media	3.30	96.70
Agricultural companies	1.70	98.30
Organization, NGOs	9.40	90.60

The results in Table 3 show distribution levels of information by rural farmers. Respondents were categorized into high level of information and knowledge on sheep breeding, medium level information, and little or no knowledge, respectively. According to results, 46.30 per cent of the respondents have high level of information on sheep breeding, 33.90 per cent have medium level information and 19.80 per cent of respondents have little or no information. We have questioned generally about how to breed sheep by the breeders. We found that most of them have a very good knowledge about that subject, and most of them had a desire for such work. Most of the breeders were rely on that job for the living costs and come worked even to have extra savings. According to survey results,

breeders are stuck in this job because it's inherited from their ancestors. Men are usually can be seen more in this work than women due to home works which solely rely on women and these works are generally taught for women to handle.

Table 3. Distribution sheep farms as an agricultural enterprising farmer on knowledge

Knowledge level	No.	%
High level information and knowledge	84	46.30
Medium level information and knowledge	61	33.90
Little-no information and knowledge	35	19.80

Table 4 shows that gender, number of sheep and land size have a significant relationship with levels of information in livestock activity ($p < 0.05$). With respect to gender it shows that male participated in livestock activity more than female. This result is similar to finding of *Jamel (2010)*. He found male headed farmers have more knowledge and information on dairy. But age of farmers, farm size have non-significant relationship with level of participation in livestock activities ($p > 0.05$). Similar to our results, *Boz (2015)* found that age of farmers and farm size were not affected farmers knowledge on sheep breeding and adoption and innovation and best management practices. The educational level of farmers is one of the most important factors affecting individual households to access agricultural information and knowledge to improve production (*Daniel, 2008; Jamel, 2010; Odini, 2014*). However in this study, we found that education level of respondents does not have significant effect on farmers

Table 4. Levels of knowledge on livestock activity by socio-demographic characteristics of respondents

Socio-demographic characteristics of farmers		Large (%)	Knowledge level			χ^2 test (p-value)
			Medium (%)	Little (%)	Total (%)	
Gender of farmers	Male	53.10	36.70	10.20	100.0	51.563(0.000)
	Female	10.00	23.30	66.70	100.0	
Age of farmers	≤ 39	39.30	37.50	23.20	100.0	2.587(0.629)
	40-59	46.00	35.60	18.40	100.0	
	≥ 60	55.90	26.50	17.60	100.0	
Education level of	Illiterate	43.80	33.80	22.30	100.0	2.036(0.361)
	Primary and HS	51.10	36.20	12.80	100.0	
Number of sheep	>150	35.50	35.50	28.90	100.0	10.984(0.027)
	151-300	50.80	31.70	17.50	100.0	
	<301	57.90	36.80	5.30	100.0	
Land size	>35	44.00	25.30	30.70	100.0	14.021(0.007)
	36-50	57.10	35.70	7.10	100.0	
	<51	40.00	45.00	15.00	100.0	

Table 5. Percentage of respondents, by level of knowledge and the way of accessing to extension services

Access to extension services		High (%)	Knowledge level			χ^2 test (p-value)
			Medium (%)	Little (%)	Total (%)	
Civil Institution	No	33.70	34.70	31.60	100.00	22.349(0.000)
	Union Farmer	62.70	32.80	4.50	100.00	
	FAO	46.70	40.00	13.30	100.0	
Training Course	Didn't get training	35.20	38.10	26.70	100.00	13.438(0.001)
	Got training	61.10	29.20	9.70	100.00	
Posters	One time	30.00	40.00	30.00	100.00	1.230(0.541)
	Never	46.7	34.1	19.2	100.00	
Veterinary department	One time	44.80	33.10	22.10	100.00	4.042(0.133)
	Never	52.20	43.50	4.30	100.00	
Friends and neighbors	One time	47.50	28.70	23.80	100.00	7.242(0.027)
	Never	41.80	47.30	10.90	100.00	

knowledge on sheep breeding ($p > 0.05$). In case of number of sheep on farm, the result shows that respondents owned high numbers of sheep were more involved in livestock activity than other while a few educated farmers are the more knowledge of participation in livestock activity.

Chi-square test was used to determine the relationship between participation level of respondents in livestock activities and their way in gaining access to livestock extension services in the study area. The results in Table 5 shows that friends and neighbors, civil institution and training course have a highly significant relationship with the farmers and their accessing to agricultural extension services ($p < 0.05$). But veterinary department and posters have not significant relationship with the accessing extension services ($p > 0.05$). At the same time in this study, veterinary department is the important factor in livestock activity. Friends and Neighbors, and the private sector, the other farmers, friends, and relatives were the most significant sources of information used by the farmers to get information on sustainable agricultural practices. The study founded the biggest rate got the information from the neighbors and friends with 69.4 per cent, representing the main channel of communicating agricultural information, As well as civil institution and training course the most important factors related with the level of information on livestock. This was in agreement with the findings of Yusuf, *et. al.* (2013).

CONCLUSION

Information could be a very primary useful resource for any development together with agriculture,

and for that reason small or big knowledge is required. Information can be valuable whether it is accessed by the way of principal, well timed, and appropriate knowledge sources. The purpose of this study was to investigate the overall participations of farmers regarding agricultural extension education in Qushtapa-Erbil. This study aimed to research the participation of farmer within the extension activities approach, also make suggestions on how farmer's participation in extension activates on the agriculture are, their selection for extension delivery ways, as well as motives that have an impact on their participation in extension training in their localities. In order to gain an effortless access and effective utilization of agricultural knowledge in this digital age, there's a need for the establishment of knowledge facilities in all rural communities in Erbil. We concluded that there are few traditional beliefs that farmers have concerning the implementation of extension services in their localities, these results in poor attendance and, as a consequence, bad production. However, most of the farmers aimed to increase their production with the use of new farming methods, but there are many reports suggesting that farmers intend to gain such methods by traditional routine ways. This study found that farmers gain the knowledge from their neighbors and/or friends as well as veterinary department. There are very few who have gained knowledge from the sources like NGOs, posters, TV and extension approaches in the form of leaflets, folders, training and demonstration. As a result, it's advocated that progress retailers, official gurus, administrative bodies, planners and related corporations first should not forget the impact of informal sources of agricultural information.

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