

THE LEVEL OF KNOWLEDGE OF SHEEP FARMERS IN THE DISTRICT OF NUMANIYA/ WASIT PROVINCE OF THE USE OF MODERN TECHNOLOGIES TO DIAGNOSE AND TREATMENT OF DISEASES THAT MAY FACE THE SHEEP AND ITS RELATIONSHIP TO INDEPENDENT VARIABLES

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Abstract. The research aim is to determine the level of knowledge of sheep farmers in Numaniya district / Wasit province to the use of modern technologies of husbandry , diagnose and treatment of diseases that may face the sheep and to identify the Independent variables and relationship to the level of knowledge. The enquiry depended on a personal interview to collect research information. research community has included all farmers who are practicing sheep rearing as total sum of (150), stratified sample of 20% of the research community as the total sample size of 30 farmers. a variety of statistical methods were used, including (percentages, mean, standard deviation, coefficient of simple correlation Pearson) to analyze the data. The results of the study shown the weak tend to medium level of knowledge is in ways of modern husbandry and the use of modern techniques in the diagnosis and treatment of disease, as the average of the study (10.83), and a standard deviation (2.76) shows that the vast majority of respondents (46.67%) fall within the first category (low). With regard to the relationship between the level of knowledge and Independent variables of farmers the study also demonstrated, there is a positive correlation between the level of knowledge in ways that modern husbandry and all of the present variables at the level of probability (0.05), which is (the number of family members, social status, participation in specialized training courses , the number of sheep owned by the farmer) . so the study recommended the increase of the guiding role through extension specialist in the field of animal resources and to create a suitable warehouse for feeds to address the shortage that could occur during the culture period, also the work on activating the role of specialized associations, which in turn is providing all the requirements modern husbandry, and work on the establishment of veterinary clinics for the purpose of controlling diseases that may infect herds, and work to preserve the new breeds of sheep and try to improve them, as well as a closer relationship between research institutes and departments of agriculture and farmers for the purpose of addressing the problems and the delivery of new technologies.

Keywords. Sheep, Husbandry, Wasit, Level of knowledge.

1. Introduction

Animal resources is in the Arab world one of the grounds upon which the national income, and wealth ovis one of the main pillars of it. the Arab homeland have witnessed in recent years a steady increase in the numbers of this wealth. the number of breeds of sheep in the Arab world is about one hundred or more, which is considered the most important Arabian breeds s triple purpose

deployed in the Arab world and that because of its ability to give good productivity, and their good genetic factors. Some of these strains Has adapted with the hardships of living in the desert where rain rates are low and poor pastures [1]. The animal production occupies important site is in the Iraqi economy as it contributes nearly half of the value added of agricultural production, who provides the necessary meat for the population food, dairy and eggs [2]. the great benefit of sheep to humans for their meat, wool and milk in addition to low costs of raising them and bear the hunger, thirst and lack of food for long periods, and cheap costs of setting up their pens, it does not need to special pens to accommodate, simple sheds and low cost of labor required to care [3]. The advantages of sheep husbandry are, quickly cycle of capital due to the high efficiency of reproductive and speed of reproduction and up in annual revenue, raising sheep to (320%) of the capital, it recommended that farmers select the type of sheep to be raised in proportion to the objective of the project, the production of milk and milk products, production Wool (production of certain types), meat production (fattening male lambs) [4].Therefore requires the farmer to vaccinate and protect the herd from epidemics and Hygiene of Animal and protection from sun, rain, wind, humidity, and to secure the clean adequate feed and health and conduct periodic inspection of farm animals for fear of outbreak of diseases, cleaned out permanently and compilation of waste out of the barn and farmers must keep an animal identification and maintenance of book to follow up on their imports and their health and vaccines [5]. Accordingly, the sheep are successful depends on four basic pillars are:

- Administrative and technical management is the main economic engine in the workflow and production.
- Labor who characterized by the labor of herders and guards who must have the activity of work and kindly love of sheep.
- Range: to provide adequate areas of natural pasture with good vegetation cover in addition to crop residues to fill a large part of the food needs of the herds, which leads to profit bumper.
- The economic possibilities: to provide the financial resources necessary for the purchase of animal resources, machinery and recipients of other necessary for the sheep [6], since the extension is working on upgrading the agricultural reality in production sites through training of farmers and the transfer of research trends to in all areas of agricultural production in order to increase production and rationalize the use of natural resources and spread the use of modern technologies.

From here highlights the role of agricultural extension as one of the principal development tools that bring about desired changes in the lives of the rural community [7]. Therefore extension aims to the transfer of knowledge and modern skills to the farmers, including sheep farmers and work on training and husbandry of modern skills because of its role in improving the conditions of farmers, economic, social and environmental [8], extension can be defined in that organization or process that aims to transfer and diffusion of knowledge among targeted people to acquire technical skills through informal learning, to improve their productivity and provide advice to improve farm management and help them make appropriate decisions on the basis of objective

economic and motivate them to organize themselves for self-reliance in addressing their problems in order to raise their standard of living and sustainable development process [9-11].

Given the low productivity and low production volume in this sector because of the primitive method of sheep husbandry and lack of communication with the modern methods of husbandry, care, prevention of diseases and other issues that cause the loss of large numbers of sheep, which is reflected in the economic returns and future directions of farmers, has been noticeable through cohabitation by the researchers, the prevailing type of husbandry is individual primitive husbandry and whose objective was to meet the needs of rural families to milk and dairy products and meat. So formulated the research problem in determining the knowledge level farmers in the district of Numaniya to Wasit province, in ways in modern husbandry and the use of scientific techniques in the areas of nutrition, care of births and the diagnosis and treatment of diseases that might be encountered herds of sheep they already have. And it launched the study in an attempt to answer the following questions:

- What is the level of knowledge available to sheep farmers in the district of Numaniya province of Wasit in ways that modern husbandry and the use of modern technologies in ways that care and diagnosis and treatment of diseases?
- What is the relationship between the level of knowledge and some variables, social, personal and economical?

1.1. Research Objectives

- Determine the level of knowledge of the sheep farmers in the district of Numaniya province of Wasit in ways of modern husbandry and the use of modern technologies of care and diagnosis and treatment of diseases.
- To identify some of the Independent variables namely, (the number of family members, social status, the number of sheep, training courses achieved) and their relationship to the level of knowledge in methods for husbandry sheep.

1.2. Statistical Hypotheses

- There is no relationship between the level of knowledge and the number of family members.
- There is no relationship between the level of knowledge and social status.
- There is no relationship between the level of knowledge and the number of sheep.
- There is no relationship between the level of knowledge and training courses achieved.

2. Methodology

2.1. Research Methodology

To achieve the objectives of the research, use the descriptive approach, which is one of the methods to obtain adequate and accurate information from social reality and contribute to the analysis of its phenomena.

2.2. Research Area

The research was conducted at Numaniya area because of the nature of the agricultural area that provide appropriate conditions for the husbandry of sheep as well as to provide the appropriate number of farmers to allow a search, where the study of farmers affiliated to the Division of Numaniya cultivation in the province of Wasit. The number of (150) farmers who are practicing the profession of the sheep husbandry time of data collection for the 2019-2020 agricultural season, was selected stratified sample of 20% of the research community as the total sample size of 30 farmers distributed in twelve villages have been made to search.

2.3. Data Collection

Data collection was needed by the search by a questionnaire designed for the collection of primary data through personal interview. Questionnaire included two parts, Part I, which included independent factors (the number of family members, social status, the number of sheep, specialized training, years of work in husbandry sheep).

The identification of these factors was by researchers after briefing on the related literature and review some of the studies on the level of knowledge in addition to consult specialists in agricultural extension and psychology as it was built for the measurement of these independent factors of the following:

- Number of family members: respondents were asked for the purpose of knowing the number of family members.
- Social status: was asked about the social status enjoyed by respondents, were identified as social status with four choices (a tribal leader, from the village elders, farmers, wage earners).
- To participate in specialized training courses: respondents was asked about his participation in training courses and asked him to answer (yes or no).
- Number of sheep: respondents were directed to the question under examination to determine the attributes of sheep.
- Years of work in sheep: measured by the number of years spent by respondents in sheep, where the subjects were divided into four categories depending on the period he spent in this work.

Where the answer to these questions in the first part as follows:

- The reference to the appropriate number as in (number of family members, the number of sheep, years of work in husbandry sheep).
- Choose from among the alternatives as the farmer's notation on the test, which suits him, as is the case in (social status, and participation in specialized courses).

Part II: measurement of level knowledge of the sheep farmers at Numaniya of Wasit province to the correct methods and the use of scientific techniques in the areas of nutrition , care of births , the diagnosis and treatment of diseases that might be encountered herds of sheep they already have. The questionnaire has been built to measure knowledge level in the light of literature and the views of specialists in the field of animal resources. Was to determine the number of questions for this

part, amounting to the 30 questions were distributed and the degrees of the scale as follows, the operations of building pens and sheds and areas of drinking water, as each question was given three 3.5. The part of animal services operations, such as shearing ,numbering , castration and other operations that must be performed by the farmer, as each question was given 5.5 degrees. The part of diagnosis and treatment of various diseases and pathogens that can cause loss of large numbers of sheep and thus lead to economic losses, as it was given four grades for each question of the scale of this study and of 100 degrees. questions concerning the second part of the standard reviewed by experts in the field of animal resources and consultants in the Department of Animal resources at the Faculty of Agriculture / University of Basra.

It has been modified paragraphs and delete some of them, and were agreed on 20 questions and was re-distribution of the degrees of the scale again, where it was given to the part of building pens and sheds and areas of drinking water 40 degrees,for each Question 5 degrees of the scale. The part on the operations of animal services, such as shearing ,numbering , castration and other operations that must be performed by the farmer 25 degrees ,for each question 5 degrees of the scale, while the part on the operations of diagnosis and treatment of various diseases and pathogens 35 degrees , for each question 5 degrees of the scale . According to the point of view of specialists in the animal resources and belief in the idea of prevention is better than cure, and considering that the processes of service animals, such as shearing, numbering ,castration , feeding concentrates , regular times of nutrition , building of appropriate barns in terms of the number, size and operations of shearing and dipping in at appropriate time reduces the size of diseases and pests that could be vital to encounter these animals on pasture and indoors.

After that has been prepared as a preliminary form, and the purpose of ascertaining the sincerity of the researchers offer a number of specialists in psychological and educational sciences at the College of education / University of Dhi Qar, and specialists in the field of extension in the College of Agriculture / University of Baghdad.

The questionnaire stability was tested with over 20 farmers from non-members of the sample. Cronbach's coefficient (coefficient alpha) was used as it value was 0.95, confirmed the stability of the resolution and sincerity. It was in direct data collection on 02/01/2019 and ended the process of collecting data 04/02/2019. By directing a series of questions as numbered 20 questions about the knowledge level scale was used (yes or no) where it is pointing to the choice that best suits Category depending on your point of view.

The statistical analysis of data was used both percentages, and the arithmetic mean, standard deviation, and coefficient of simple correlation (Pearson) [12].

3. Results and Discussion

First: determine the level of knowledge of the sheep farmers in the district of Numaniya province of Wasit in modern ways of husbandry and the use of modern technologies in care , diagnosis and treatment of diseases.

Study results show that the highest numeric value of the level of knowledge is (16) degree which is equivalent to (0.8) High Class (20) and less than a numeric value (5) the degree of which is

equivalent to (0.25) of the lowest numeric value possible, namely, (0) and an average mean value of (10.83) degree. degrees Have been classified the level of knowledge into three categories (low, medium, high) and appeared to be the highest variety of respondents (46.67%) were under the first category (low), followed by (36.67%) within the second category (medium), the lowest percentage was within the third category, namely, (20%) as shown in Table (1).

Table 1. The distribution of farmers and categories according to the level of knowledge of modern husbandry methods.

Level categories of knowledge	Class standard	Number of farmers	% average	Level of cognitive
Low (I)	less than -1	14	46.67	8.5
Medium (II)	between 3-+1	11	36.67	11.91
High (third)	more than +1	5	20	15
		30	100	

N = 30 s.d = 2.76 \bar{x} = 10.83

The above table clears that there is a relative decline in the knowledge of farmers in s modern husbandry, because the majority of respondents within the category of the knowledge level achieved, which amounted to (46.67%) and its average level of knowledge (10.83), the results indicate that most respondents still follow the old ways of sheep husbandry and lack of attention to modern methods that would maintain the herds welfare , which led to increased loss and the lack of feed amounts due to the inappropriate pastures and lack of good rations and also the spread of many diseases and epidemics in these herds, this result attributed, no suitable housing for sheep to protect them from external environmental conditions as well as conservation from enemies (predators) as well as unsuitable drinkers sizes, shapes, which in turn caused sheep contention by them, no adequate feed and also the lack of consumption of concentrates that in turn, which increase production and productivity, and in turn have to rely heavily on wild herbs in the fields, in addition to using the wrong methods in new birth and mothers husbandry.

non using of numbering , dipping and wool cutting can cause huge loss because of their role in the speed of the distinction between sheep, as well as increased weights of male and achieve the greatest economic benefit from the use of modern technologies to reduce economic losses and to control of many diseases and treatment that affect sheep in the field and barns.

3.1. Goal II and III

Describe and identify the independent factors and their relationship to the level of knowledge of farmers in the district of Numaniya of Wasit province to the modern husbandry. It was the second objective of the study is to describe the independent variables related to sheep farmers who are practicing the profession of husbandry and direct care of it (the number of family members, social status, the number of sheep, training courses achieved).

The third objective is to identify the relationship between the level of knowledge and its relationship to some independent factors mentioned in the second goal. Therefore, the results of this study will be mentioned in this section describes the independent variable first and then its relationship to dependent variable (cognitive level), as follows:

3.1.1. Number of Family Members

For the purpose of description and number of family members who practice the profession of sheep were divided to six categories (4-6 ,7-9 ,10-12 ,13-15 ,16-18 ,19-22)people , as the highest percentage of 30% within the category The first is the proportion of 4-6 people, followed by 16.67% in the second category 7-9 members, while the lowest percentage was 10% within the fifth category which is 16-18 per capita. As in Table (2) .

Table 2. The distribution of respondents according to the number of family members, percentages, and the average level of knowledge for each category.

No	Categories of number of family rate	Members of respondents	% of respondents	Level of knowledge	Correlation	Calculated T	Indexed T
1	6-4	9	30	9			
2	9-7	5	16.67	11.2			
3	12-10	4	13.67	11			
4	15-13	5	16.67	10.6	0.61	0.597	2.042
5	18-16	3	10	14			
6	22-19	4	13.67	13.25			
		30	% 100				

N = 30 s.d = 5.68 \bar{x} = 11.07

When calculating the relationship between the number of family members and the level of knowledge using a simple correlation coefficient (Pearson), which indicates the existence of a positive correlation and to make sure of the sincerity of this relationship , the t-test was used , which was worth the calculated T 0.597 and compared with indexed T amounting to 2.042 and including the value of calculated T is less of indexed T, so we accept the statistical hypothesis, which include the absence of a correlation between the number of family members and the level of knowledge and as shown in table No. (2) This finding corresponds with the findings of [13] and attributed this relationship to the adoption of most rural families to raise sheep, no matter what the number of its members.

In addition, the large family's needs large economic resource, to cover the daily expenses compared with the level of knowledge they have which indicates by the greater the number of family members increased level of knowledge and to inheritance of expertise and the large opening to external and modern means of communication, resulting in an increase in their knowledge.

3.1.2. Social Center

For the purpose of description of social status enjoyed by the farmer were divided into (a tribal leader, of the elders of the village, farmers, wage earners). It was the highest percentage (43.33%) within the third category, namely, (farmers), while the percentage (26.67%) within the second category They (the village elders), but less than a percentage (10%) within the first category, namely, (tribal leader) and also in table No. (3).

Table 3. Shows the distribution of respondents according to the social status enjoyed by the farmer and the percentage and the rate of knowledge level for each category.

No	Farmers groups	Members of respondents	% of respondents	Level of knowledge	Correlation	Calculated T	Indexed T
1	tribal leader	3	10	11			
2	elders of the village	8	26.67	12.25			
3	farmers	13	43.33	10.92	*0.61	0.597	2.042
4	wage earners	6	20	8.67			
		30	%100				

N = 30 s.d = 0.91 \bar{x} = 2.27.

* significant at 0.05 level of probability.

When calculating the relationship between the social status of each Quersted and the level of knowledge using a simple correlation coefficient (Pearson), which indicates the existence of a positive correlation and to make sure of the sincerity of this relationship, the t-test was used, which was worth the calculated T 7.303 and compared with indexed T amounting to 2.042 and including the value of calculated T is less than indexed T, so we accept the statistical hypothesis, which include the absence of a correlation between social status and level of knowledge and as shown in table No. (3) This finding corresponds with the findings of [14] and during follow-up findings of the research could explain this result is that the social status have a positive effect on increasing level of knowledge as a result of communication with the departments of agricultural and veterinary services, which in turn is providing farmers with the latest information and modern methods in sheep raising.

3.1.3. Participation in Training Courses

For the purpose of description participation farmers in the training courses respondents were asked (Have you participated in training courses in the area of husbandry methods and the use of modern technologies in sheep farming and combat diseases and the answer is yes or no). The percentage of participants in these training courses (40%) The proportion of non-participants (60%) and also in table No. (4).

Table 4. Categories of participants in training courses and the number of farmers and the percentages and the average level of knowledge for each category.

N o	Categor y	Respondent s	% of respondent s	Level of knowledg e	Correlatio n	Calculate d T	Indexe d T
1	Yes/ 1	12	40	10.54			
2	No/0	18	60	10.44	*0.95	0.597	2.042
3	farmers	30	100%				

N = 30 s.d = 0.91 \bar{x} = 2.27

* Significant at 0.05 level of probability.

When calculating the relationship between participation in training courses for each Quested and the level of knowledge using a simple correlation coefficient (Pearson), which indicates the existence of a positive correlation , and to make sure of the sincerity of this relationship use the T-test , the calculated T was 16.17 and compared with indexed T of 2.042, so we reject the statistical hypothesis and included the lack of a correlation between participation in training courses and the level of knowledge and as shown in table No. (4) This finding corresponds with the findings of [15]. We Can interpret this result on the grounds that participation in training courses is one of the important means in the delivery of modern information and developed for farmers and the more they participate in training courses, many reflected on the volume of information available for the farmer and therefore can deal with the herd in a scientific and sophisticated to ensure its husbandry correct and less losses and great financial returns at the end of the season.

3.1.4. Number of Sheep

For the purpose of description the number of sheep in the possession of farmers has been divided into six group categories along the category (64) starting from (20) head and ending at (404) head, and was the highest percentage (23.33%) within the second category (84-147) and The lowest percentage (10%) within categories III and V (148-211), (276-339) head as shown in Table (5).

Table 5. The distribution of the number of sheep owned by farmers, percentages, and the average level of knowledge for each category.

N o	Categor y	Responden ts	% of responden ts	Level of knowledg e	Correlati on	Calculate d T	Indexe d T
1	83-2	6	20	8.83			
2	147-84	7	23.33	8.71			
3	211-148	3	10	13			
4	275-212	5	16.67	13	*0.721	5.506	2.042
5	339-276	3	10	12.67			
6	404-240	6	20	11.83			
		30	100				

* Significant at 0.05 level of probability.

When calculating the relationship between the number of sheep owned by the farmer and the level of knowledge using a simple correlation coefficient (Pearson), which indicates the existence of a positive correlation, and to make sure of the sincerity of this relationship the T-test, which was worth the calculated T 5.506 and compared with indexed T of 2.042, so we reject the statistical hypothesis, which includes the absence of a correlation between the number of sheep owned by the farmer and the level of knowledge, as shown in Table (5) This finding corresponds with the findings of the [16].

The table above shows that the rise in the number of sheep owned by the farmer increases the level of knowledge in order to maintain his sheep and reduce the losses that can be faced with the herd in addition to obtain economic returns, which pays attention to them and to provide all the necessary conditions to keep sheep.

Conclusions

Based on the search results can be reached the following conclusions:

The level of knowledge of the sheep farmers in the district of Numaniya of Wasit province to the ways of husbandry and the use of modern techniques in the diagnosis and treatment of diseases that can be faced sheep was relatively low, tends to medium. This may be attributed to:

- In the field of husbandry noted that most farmers rely on the old ways in husbandry for keeping their distance from the modern methods in which they can obtain updated information, as a result of distance from veterinary centers and agricultural offices, which led to not rely on modern methods in building barns and feeders and also use machinery, electrical shearing, numbering and castration and other operations that must be undertaken to maintain the herd. Also due to the need for money to buy these machines, in addition to that most farmers with low level of knowledge in the field of diagnosis and treatment of diseases.

To describe the correlation between the level of knowledge and the independent factors are as follows:

- For the number of family members, most families that practice the profession of the sheep is the type of low income families, who works for personal and economic reasons. As for social status, most farmers are within the third category are the farmers who practice the profession of raising sheep, cattle and agriculture is their main occupation more than the rest of the categories. Participation in the training courses were somewhat weak for reasons of the distance of the venue places, and the lack of appropriate meeting time in addition to the absence of what motivates farmers for attending these sessions. As for the number of sheep owned by the farmers were moderate somewhat because of the attend large number needs places, fodder and other, which requires the need for large amounts of capital in, these numbers make their budget with the agricultural tasks of other things such as crops and vegetables and cattle-husbandry and most of farmers engaged in sheep farming in order

to fill their daily needs of the financial benefits that can be saved as a result of selling some of them as it is the speed of sheep rotation of capital.

Recommendations

Given the low level of knowledge of the sheep farmers in the district of Numaniya of Wasit province, so the researchers recommend the following:

- To raise the level of knowledge for farmers through the intensification of extension efforts through the activation of the role of the specialized extension, and work to increase the training courses and field visits for the purpose of explaining modern methods of husbandry and methods of diagnosis and control of diseases which contribute to raising the knowledge level of farmers and also to focus the relevant factors in turn, serve as a predicate for the role of the indicative increase in information and knowledge of farmers with the treatment of other factors in order to serve the reality of raising sheep and working on finding the best ways of this wealth because of their significant role in the national economy.
- Working to establish a feed warehouses needed to store backup materials forage in close proximity of the villages where these sheep, for the purpose of bridging the shortfall, which could occur during the season.
- To work on activating the role of professional associations, which in turn is providing all the requirements of modern husbandry and the conditions suitable for life farmer and the way of husbandry.
- Work on the establishment of veterinary clinics that are close to the areas of sheep herds, which facilitates quick follow-up, diagnosis and control of various diseases that may infect sheep during their presence in the field or the barn.
- Work to maintain the new breeds of sheep with good productivity and try to improve and dissemination through the wider distribution of these sheep for farmers, at subsidized prices in order to take advantage of them.
- Work to increase the cycle of communication between research institutes and departments of agricultural and farmers for the purpose of addressing the problems and the delivery of modern information and development that is happening in the systems of husbandry, improvement and methods of treating diseases.

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