

## STUDY ON THE INCIDENCE OF VARIOUS SHEEP DISEASES AND ITS REARING STATUS IN KAPISA PROVINCE

Dadullah Haleem <sup>1</sup>

Sayed Mohammad weqar <sup>2</sup>

Qiamuddin Shinwari <sup>3</sup>

Glamazdin Igor Gennadievich <sup>4</sup>

<sup>1</sup>Al beroni University

<sup>2</sup>Nangarhar University

<sup>3</sup>Helmand University

<sup>4</sup>Moscow State University of Food Production

<sup>1</sup>(Afghanistan, Kapisa)

<sup>2</sup>(Afghanistan, Jalalabad)

<sup>3</sup>(Afghanistan, Lashkarga)

<sup>4</sup>(Russia, Moscow)

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**Abstract.** Kapisa is the province of Afghanistan which is located in the north part of Afghanistan. North area of the Afghanistan is very suitable for sheep rearing and grazing because it has normal and warm climate condition. Regarding to this study in Kapisa province, there were no major activities have been researched which has related to sheep rearing status, breeding and diseases incidence, so in this study, we had evaluated sheep rearing status, conditions and its diseases incidence in Kapisa province, in order to promote and raise the technical skills of farmers to provide for their herd and know them about suitable place, hygiene and prevention of diseases and give them information about quality production. Data and information's included to this study were estimated and collected by three (observation, interview and distribution of questionnaires) methods. In observing method we had observed sheep rearing status in four seasons of the year and in the interview method we had gotten reports from the relevant animal health clinics and 50 livestock families in 10 large villages of Kapisa province, which were randomly selected and distributed through questionnaires related to sheep rearing condition and disease incidence, data and information were collected and analyzed by statistical method. According to the results of this research, sheep rearing is carried out in a rudimentary and non-technical way in Kapisa Province. So the way of rearing sheep is mainly for reproduction and serving life (expansionary and multiplicative). Usually all of the ranchers did not know about hygiene and diseases control, according to the reports of Animal Health Clinics, there were 24% of ranchers faced with contagious Caprine pleuropneumonia (CCPP) in their herds. Also the incidence of external parasites were 20%, internal parasites were 17%, FMD morbidity rate were 15%, sheep Pox were 10.66 %, foot rot inflammation 7.66% and other diseases, especially metabolic diseases were 5.33% had been reported from Animal clinics. The main obstacles to the status of sheep rearing in Kapisa are the lack of production and supply of quality food in winter, lack awareness of ranchers about the management and maintenance of sheep technical rearing systems, Insufficient and suitable rearing place for sheep herds in winter, weak economy of ranchers, lack of government attention to the services of veterinary preventions, supports and Absence of stable markets for productions.

**Keyword:** sheep, hygiene, diseases, parasites, condition.

**1. Introduction.** Sheep is the oldest animal to be domesticated by human beings, the date of domestication of sheep is noted around 8-10 thousand BC in Central Asia and

China ( رشيق، 2006 ). Many developing countries of the world are found in the tropics, which are presently experiencing a speedy climb in human population, spectacu-

lar urbanization, monetarization of economics, and profits change. Thus, the major issues to be addressed for these countries include enhancement of food security by hostility poverty and achieving agricultural growth that would contribute to overall economic development (Calicioglu et al, 2019). Sheep with multi-facet utility (for meat, wool, skin, manure and to some extent milk) plays a fundamental role in the Afghanistan agrarian economy. They are better adapted to dry and semi-dry tropics with marginal and sub-marginal lands. They are possibly the most suitable small ruminants to utilize the sparse vegetation available in arid land areas through rangeland management and reseeded pastures (Adegbeye et al, 2020). Afghanistan is a country that has very suitable conditions regarding to climate, and grazing for sheep husbandry, so the north part of the country are having large areas of pastures which is good environment for sheep rearing and annually thousands of sheep and goats are rising there, in this regard, the carpets and rugs weaving industry have grown more in the northern parts of the country, Moreover carpets and skins are the main export items of our country (Demiruren., 1958). In Afghanistan, sheep rearing is the prominent part of livestock sector, therefore before the war and drought about 90% of livestock incomes were earned by the country from sheep industries. According to the (F.A.O., 2003) reports, Afghanistan had 22 million sheep in the year of 1977, which were accounting 45% for meat production and 26% for milk production but the recent surveyed of animals has been showed that the total sheep numbers of Afghanistan were 8,781,345 (FAO., 2003). Sheep husbandry in Afghanistan has been common and largely based on nomadic shapes and relies entirely on local breeds, which are (Karakul, Ghiljai, Baluchi, Gadik, Hazaragi and Kandahari, Herati, Arabi and Turki (Yalcin., 1979). Generally, the production rate of local breeds is very low, for this reason the production income from lamb is 60-80%, the twins is 0-5% calculated, the total weight of ewes is approximately 25-50 kg, the male sheep weight is 40-65 kilograms and the production rate of milk at the lactation period is 30-60 kilograms. Karakul is making from 30% of the

country sheep populations in Afghanistan and it is the largest breed of Afghan sheep. Ghiljai breed with 17% is located in the second position and Arabi with 13% is in the third position have been estimated. Sheep such as Ghiljai, Kandahari, Arabi, Baluchi and Hazaragi breeds are rearing for meat and wool production, Karakul breed is rearing for skin production and Turki and Arabi sheep breeds are rearing for meat production in Afghanistan (رشيق، 2006).

**2. Aims:** Aim of the study is to evaluating the sheeps rearing status and its diseases incidence in the north part of Afghanistan and informs the ranchers to technical rearing of sheeps herds, farm management, disease control, prevention and quality production.

### **3. Material and Methods**

#### **3.1. Study area and ethical statement**

This study is completed from 02-05-2020 to 02-05-2021 in kapisa province. The materials which is used in this study, that is questionnaires, mobile phones and cameras, apron, gloves, masks, etc....). This study was controlled and evaluated by the research committee of Agriculture faculty of Alberoni University. The recordings, observations, and data collection from the ranchers were done with approvals of the Kapisa Province Agriculture Directorate,

Data and information's included to this study were estimated and collected by three (observation, interview and distribution of questionnaires) methods. In observing method we had observed sheep rearing status in four seasons of the year and in the interview method we had gotten reports from the relevant animal health clinics and 50 livestock families in 10 large villages of Kapisa province, which were randomly selected and distributed through questionnaires related to sheep rearing condition and disease incidence, data and information were collected and analyzed by statistical methods.

#### **3.2. Housing, feeding and health management**

The sheep herds under study were properly identified by the name of ranchers. Drinking water was provided in the shed throughout the day. In extensive and semi-intensive systems, the sheep were sent for grazing from 8.00 AM

to 4.00 PM, while the intensive sheep was offered with fodder and grass. The sheep in intensive and semi-intensive systems were not fed with concentrate mixtures. The intensive sheep were housed in unventilated shed with sun shade. All the sheep were not vaccinated through the year against FMD, Enterotoxaemia Blue tongue, and PPR. Hygienic surroundings were maintained throughout the experimental period. All the experimental Sheep were dewormed before starting the experimental trial with broad-spectrum anthelmintic (Niclosamide and Albendazole).

### **3.3. Pasture characteristics**

The sheep were grazed on pasture in the kohband district of Kapisa province. The pasture botanical composition comprises a mixture of herbaceous plants, grass and browses species. The sheep were acclimatized for an observer for a minimum 15-day period or until the cessation of their movement while the observer was 0.5 to 1.5 meters away.

### **3.4. Disease incidence**

The sheep herds managed under the three rearing systems were watchfully evaluated for health problems such as diarrhea, FMD, pneumonia, anorexia, Enterotoxaemia, skin abscess and infestations, foot rot, and parasitic infestation. Diseases noticed from clinics, if any, were noted separately according to farming system and seasons.

## **4. Result**

In this study we has collected data approximately 60% from Turki breed, 33% from Arabi and 7% from other breeds, because the

mentioned percentage shows the rearing rate of sheep breeds at the country. Rearing place of the sheeps at winter season in Kapisa province are consist from small, dark barns without having ventilation faculties and having been high humidity, so the result are showing that rearing in such conditions can cause various diseases of animals. Diseases and parasites, especially if the standards of hygiene we're not be observed and preventive measures were not be implemented, which can cause very serious and destructive lesions and damages. On the other hand, if good management, proper nutrition and strict hygiene were observed in our researched area, it was possible to prevent these losses and damages from great extensions. Infectious and parasitic diseases sometimes spread from sheep to humans and cause serious problems for human health. Therefore, various sheep diseases in the province have been studied in this study, which is explained in Figure 1.

The histogram shows that 24% of ranchers' herds are faced with lungs inflammations (CCPP). Also cases of external parasites are 20%, internal parasites are 17%, FMD are 15%, sheep pox are 10%, foot rot are 7.66% and other diseases specially metabolically diseases are receiving to 5.33%. Infections of sheeps from mentioned biological agents is one of the major problems for ranchers, because the diseases will be reducing production rate and creating health problems to animals, and finally causing serious economic losses for ranchers.

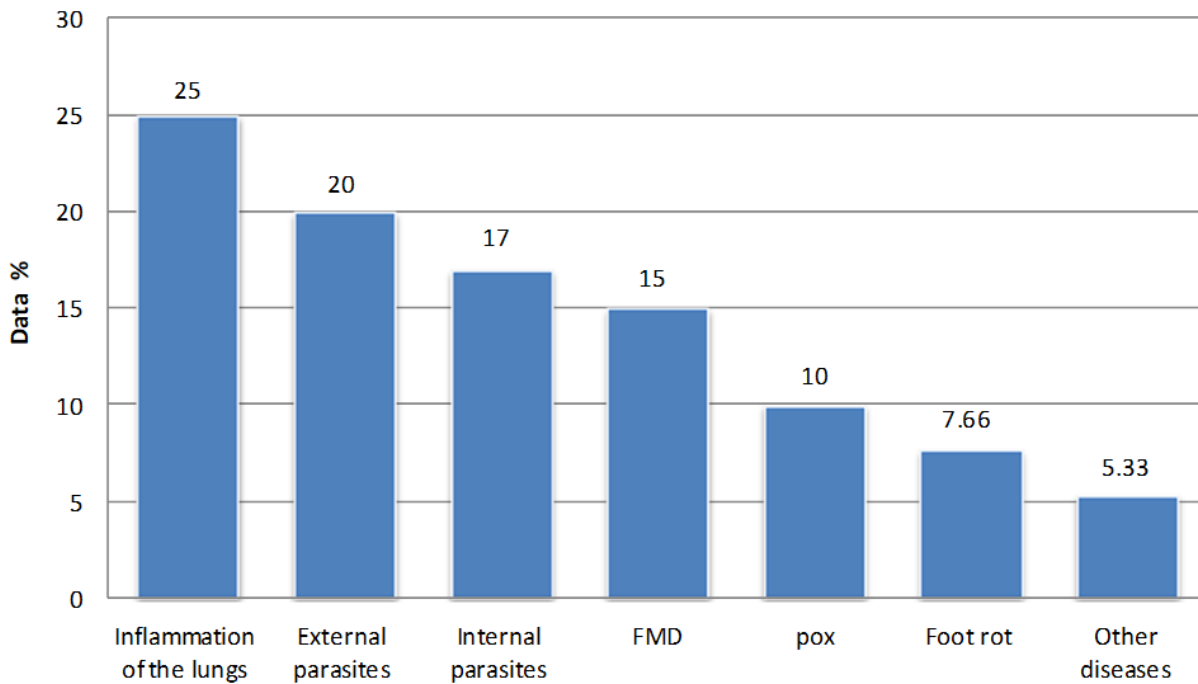


Figure 1. Incidence of various sheep diseases in the areas under study on a percentage basis

According to veterinarians and animal health experts, prevention is better than treatment. However, the use of animal vaccines and its application to animals at certain times causes the animal to be protected against these diseases. Finally the results of

this study are showing that, 80% of ranchers which are living in Kapisa province do not use animal vaccines to protect their animals for various reasons. But only 20% are applying sporadic vaccines to their animals, which were explained in Figure 2.

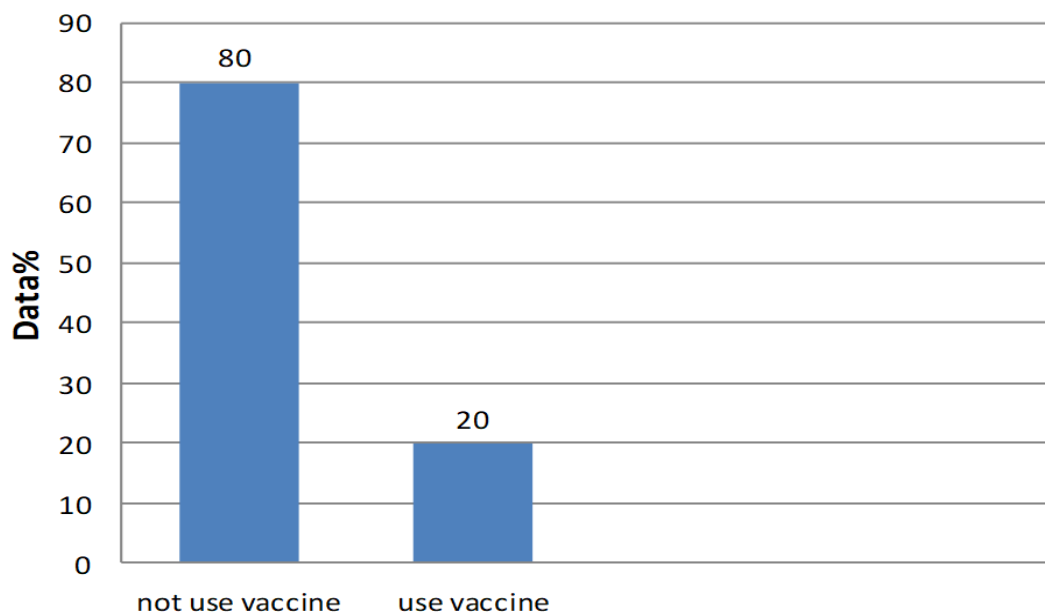


Figure 2. Use and non-use of animal vaccines by farmers

## 5. Discussion

According to the results of this study, the location of animals at winter season in Kapisa

province are consisting from small, dark and humid barns, therefore living in such conditions due to bed fermentation, extreme high

humidity, microorganisms and parasites activity, Internally and externally, it is not suitable for animals, because eventually causes various diseases of the animals. According to Sajed (2010), in Afghanistan, sheep are rearing in rural areas in dark, damp, low-lying, unventilated, moist basement, which is endangers for the animal's health and even in some cases, causes abortion in sheeps, that result is very equal to the present findings of research. According to the results of this study, 80% of farmers in Kapisa province do not use animal vaccines to protect their sheep. But only 20% ranchers are even sporadically applying animal vaccines to their sheeps for preventing the diseases. According to Akbari (2016), 66% of farmers in Kapisa province did not use animal vaccines to create exemptions for their animals, and the remaining 34% were used them moderately. After comparing with the results of this study, there are 14% increases in the non-use of animal vaccines in Kapisa province. The study revealed that sending sheep for grazing, especially during rainy season caused more health-related issues. The higher rates of anorexia cases in extensive system and summer season are directly related to heat stress. During heat stress, the efficiency of dry matter intake will be reduced in sheep, consequently causing in appetite and anorexia (Hyder et al, 2017). Most of the causative factors for pneumonia are intensified in winter season compared other seasons of the year (Mekibib et al, 2019). The same result about heat stress and Pneumonia are studied in present study too.

## 6. Conclusion

Various diseases in the country, especially in the areas under study, are among the main problems of livestock farmers and in some cases even cause stunting and loss of sheep farming. For better health and large production rate of sheeps, a regular and comprehensive hygiene program should be planned because creating sheeps business are for income. Therefore, all sheeps farming activities such as: feeding, breeding, management, vaccination, control of diseases and parasites are all will be under control because that is harm and risk for the farmer in this area. For every small or large size farmers, it is necessary to adjust their livestock activities according to the rules and standards of hygiene.

- Control the movement of irresponsible persons to the farm.

- The established or sheep barn should be practically cleaned and disinfected with a solution at least once a year.

- Prevent overcrowding of animals in the herd.

- Water pots and food eaters should be cleaned daily and new animals should be prevented from entering without quarantine.

- Sheeps are vaccinated against diseases that occur every year in the region, and important points for its hygiene should be seriously observed in order to eliminate internal and external parasites.

- In winter, it is necessary to pay attention to the right place for the sheeps. Because sheeps those, do not have good nutrition and good place in the cold season, their lambs die at birth or before birth due to the cold weather.

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## ИССЛЕДОВАНИЕ ЗАБОЛЕВАЕМОСТИ РАЗЛИЧНЫМИ БОЛЕЗНЯМИ ОВЕЦ И СТАТУСА ИХ СОДЕРЖАНИЯ В ПРОВИНЦИИ КАПИСА

Дадулла Халим<sup>1</sup>

Сайед Мохаммад Векар<sup>2</sup>

Киамуддин Шинвари<sup>3</sup>

Гламаздин Игорь Геннадьевич<sup>4</sup>

<sup>1</sup>Университет Аль Берони

<sup>2</sup>Нангархарский университет

<sup>3</sup>Гильмендский университет

<sup>4</sup>Московский государственный университет пищевых производств

<sup>1</sup>(Афганистан, г. Каписа)

<sup>2</sup>(Афганистан, г. Джелалабад)

<sup>3</sup>(Афганистан, г. Лашкарга)

<sup>4</sup>(Россия, г. Москва)

**Аннотация.** Каписа – провинция Афганистана, расположенная в северной части Афганистана. Северная часть Афганистана очень подходит для разведения овец и выпаса скота, поскольку здесь нормальный и теплый климат. Что касается этого исследования в провинции Каписа, то не было исследовано никаких крупных мероприятий, связанных со статусом выращивания овец, разведением и распространенностью болезней, поэтому в этом исследовании мы оценили статус выращивания овец, условия и распространенность их болезней в провинции Каписа, чтобы продвигать и повышать технические навыки овцеводов. фермеры должны заботиться о своем стаде и информировать их о подходящем месте, гигиене и профилактике заболеваний, а также предоставлять им информацию о качестве продукции. Данные и информация, включенные в это исследование, были оценены и собраны тремя методами (наблюдение, интервью и рассылка анкет). С помощью метода наблюдения мы наблюдали за состоянием содержания овец в течение четырех сезонов года, а с помощью метода интервью мы получили отчеты от соответствующих ветеринарных клиник и 50 семей с домашним скотом в 10 крупных деревнях провинции Каписа, которые были случайным образом отобраны и распространены с помощью анкет, связанных с состоянием содержания овец и распространенностью заболеваний, данные а информация была собрана и проанализирована статистическим методом. Согласно результатам этого исследования, разведение овец в провинции Каписа осуществляется элементарным и нетехническим способом. Таким образом, способ выращивания овец в основном предназначен для воспроизводства и поддержания жизни (экспансивный и мультипликативный). Обычно все владельцы ранчо не знали о гигиене и борьбе с болезнями, согласно отчетам ветеринарных клиник, 24% владельцев ранчо сталкивались с контагиозной плеввропневмонией каприновых (СРР) в своих стадах. Также из ветеринарных клиник поступали сообщения о заболеваемости внешними паразитами – 20%, внутренними паразитами – 17%, ящуrom – 15%, оспой овец – 10,66%, гнилостным воспалением стоп – 7,66% и другими заболеваниями, особенно болезнями обмена веществ – 5,33%. Основными препятствиями для развития овцеводства в Капесе являются отсутствие производства и поставок качественного корма зимой, недостаточная осведомленность владельцев ранчо об управлении и обслуживании технических систем выращивания овец, недостаточное количество подходящих мест для содержания стад овец зимой, слабая экономика владельцев ранчо, недостаточное внимание правительства к услуге ветеринарной профилактики, поддержки и отсутствие стабильных рынков сбыта продукции.

**Ключевое слово:** овцы, гигиена, болезни, паразиты, состояние.