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蒙古畜牧業青年就業之挑戰

Youth Employment Challenges in Mongolian Livestock Sector



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## 摘要

蒙古人具有遊牧傳統，自古以來就生活在廣闊的土地上並放牧牲畜。牲畜每年都在增加，但是年輕的牧民正在減少。有必要找出農村地區年輕牧民人數減少的原因，調查真正的因素，並確定前進的道路。為了進行這項研究，要根據蒙古的牧民政策，牧民的就業統計資料，活動報告，對牧民進行調查並進行定量研究。這項研究工作以南部戈壁省蒙古為例，研究青年牧民的就業現狀。研究結果表明，政府主要關注牲畜的利益，例如牲畜，牲畜品種，牧場和飼料，但是牧民的社會因素，健康，教育和可持續收入問題仍然存在。將來，應著重于改善牧民的生計，發展集約化農業，並需要對牧民的社會保障，健康實施全面的政策，以維持經濟。

關鍵字：牧民、青年牧民、牲畜、就業、生計



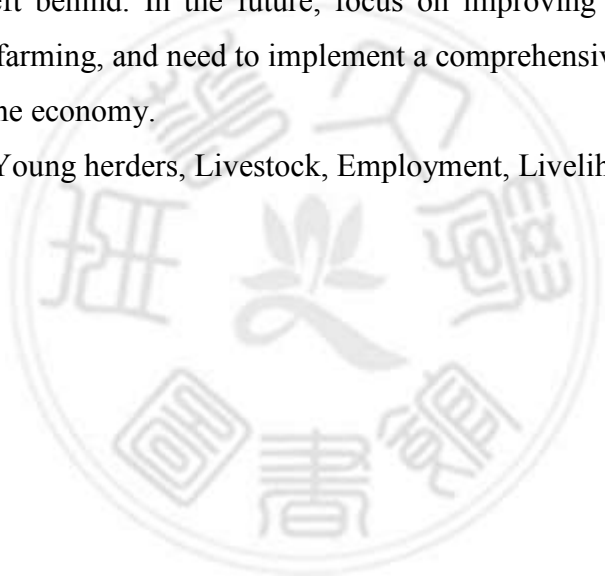
## **Abstract**

Mongolians have a nomadic heritage that lives in the vast land and herding livestock since ancient times. Livestock increases every year, but the young herders are declining. There is a need to find the reasons for the number of young herders is decreasing in rural areas, investigate the real factors, and determine the way forward.

To conduct this research, based on Mongolia's policy on herders, herders' employment statistics, activity reports, taken a survey from herders and studied quantitatively. This research work addresses investigating young herders' current situation of employment in the example of the South Gobi province of Mongolia.

The result of this research shows, the government focused mainly on livestock benefits such as livestock, animal breed, pasture, and fodder, but the issue of herders' social factors, health, education, the sustainable income left behind. In the future, focus on improving the livelihood of herders, development of intensive farming, and need to implement a comprehensive policy on herders' social security, health, sustains the economy.

**Keywords:** Herder, Young herders, Livestock, Employment, Livelihood



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## CHAPTER 1. INTRODUCTION

Herders are the largest group of people in Mongolian society who spread across the country which are similar to their work, economy and social interest. They are preserving the nomadic lifestyle of nomadic families for centuries. Nomadic household livestock husbandry is only provided their own needs which are few people labor-based employment. Mongolian nomadic household livestock husbandry featured solely based on nature, also 100% depends on it. Herders' main role is feeding livestock, choosing the best place to move where grass and water are good. Mongolia's pastoral heritage is difficult to continue because new challenges still appear such as the deprivation of pasture, water and human resource due to the modernization of many factors, such as urbanization, global warming, desertification, agriculture, mining and rapid development of the industrial sector (Gongor.D, 2012, pp. 1-4).

Over 140000 households herding livestock currently in Mongolia. But they are unorganized and still use the old method to use in herding livestock. We need to intensify the household work, increase productivity, using new technology, increasing the commodities quality. Also fight against illness and the potential of preventing is very limited under the condition of nomadic herding livestock. It is impossible to take care of pasture land because it is a public use, nobody else owns.

Nowadays many herders don't milk completely their livestock, also can't vend meat, milk, wool, and cashmere much as they want, the main reason is that they live geographically distant from the market. Also, people are getting more lesser to interest to work in this field. Besides, young herders are overwhelmed by animal husbandry form of herders depends on livestock, livestock depends on nature completely. The number of herders decreasing year by year, the cause of the herders prefer to city lifestyle which is more comfortable with social and economic development. Recently, over 70 percent of herders surveyed across the country said "The purpose of their children to be employed other than herding" is the real value. Regrettably, many social issues cannot be resolved optimally including herders' retirement benefits, raise their children in a healthy environment, and to educate them in case of nomadic livestock husbandry. In short, today's livestock sector in Mongolia is dropped behind the rest of the other industries, which is growing rapidly. Also, the distance between them is getting bigger.

### **1.1. The Purpose of the Study**

According to the National Statistics Office, by 2018, Mongolia has 1,452.29 herder households. The national poverty is 27.4 percent, while 34.4 percent of herders and 24.4 percent of non-herding households. The livestock sector produces about 10 percent of Mongolia's gross domestic product; about 30 percent of the working population is herders.

However, the number of herders has decreased steadily recently. This is due to the scarcity of young herders. Where ever you go in any slums, people talk about young herders are getting scarcity. It is getting more common, 40 years old herder is counted as a young herder in some slums. In the last two decades, youth have left the countryside and settled in urban areas. The issue of preparing the young herders needs to be supported by the state policy. It is not their fault to leave their habitats to live in a new environment. But this problem cannot be ignored.

To support the herders' lives in the nucleus of public policy, in recent years, the Mongolian government has reduced the herder's loan interest rate and raising the retirement age of herders for five years, initiating the "First Meat and Milk Campaign", increasing meat exports and exporting more than 80% the development of livestock production, and the development of a processing plant in the countryside to solve many issues to improve herders' livelihood. It is the most important activity in this sector, which is important for the future of Mongolia's economic development. The livestock husbandry sector is an essential part of Mongolia's future economic and cultural development and will continue to exist. Although the transition to the market economy has started for more than 20 years, the herders in the livestock husbandry sector have not fully adapted to the market system. In other words, everyone working in the livestock sector is unable to receive government assistance, except for natural disasters, and their lives depend on their efforts. For this reason, we need reforms in the livestock sector, to increase the number of young herders, to create a social environment and desire to work as herder to children and young people, also to help increase factors.

### **1.2. Reason for Choosing Subject**

If we create a more comfortable environment, fixed income, better living conditions, it is possible for young herders number increase. Besides, it is possible to better herders' social security. I will continue to work in the Mongolian civil service and expand the scope of the livestock sector, which is the primary sector of the country's economy, integrating of organizing employment, also want to contribute to their livelihood support policies. Through this research work investigating young herders' current situation of employment in the Mongolian and the Umnugovi province of Mongolia. After that, I want to submit the findings to the South Gobi province policy-makers.

Umnugobi province is one of Mongolia's largest provinces and is located in southern Mongolia. Umnugovi Province has 165,000 km<sup>2</sup> territory, the population is 65645, and Dalanzadgad is Umnugovi province center.

Umnugovi Aimag is rich in mineral resources such as gold, copper, and coking coal. Umnugovi includes several popular tourist areas, including the Bayan zag, Gobi Gurvansaikhan National Coirs, and Khongoryn Els. There is 2.6 million head of livestock such as horses, camels, cattle, goats, and sheep. Over the past decades, South Gobi's mineral sector has been developing rapidly. Oyu Tolgoi exports gold and copper concentrate, which owns 64 percent of the shares of Rio Tinto. Oyu Tolgoi copper and goldfield is one of the largest deposits in the world. There are also Tavantolgoi and Nariin Sukhait coking coal deposits located in Umnugovi province, where Tavan Tolgoi JSC, Erdenes Tavan Tolgoi JSC, Energy Resources LLC, Chinkhua MAK LLC, MAK LLC, South Gobi Sands LLC as well More than 20 companies are engaged in the extraction and export of mineral products and expanding their mineral license area.

The expansion of its mining sector creates risk in one of the key sectors of the economy which is the agricultural sector of Umnugovi province, besides the livestock grazing area, has been steadily declining. On the other hand, we need to changes in herding methodology with hundreds of years of pastoral heritage as a growing demand to intensify animal husbandry. As of the end of 2018, Mongolia has 288700 herders, down by 132692 or 31.5 percent compared to 2000, down 5 percent since 2017.

In Umnugovi province, 288.7 thousand herders are dropped by 31.5 percent compared to 2000 and a 4.9 percent decrease compared to 2017, indicating that the number of herders is decreasing year by year. In terms of age classification, the number of herders aged 16-34 decreasing is the most significant issue. In 2000, 55.9 percent of herders were between the ages of 16-34 and by 2018, 33.3 percent of herders fell to young herders.

Therefore, through this survey, analysis of the real factor of the number of young herders is decreasing in rural areas, and as well as contribute to this issue to determine the way forward.

### **1.3. Subject of Study**

There are many local scientists study Mongolian pastoralism. In particular, Dr. D.Bazarghur, B.Chinbat, and S. Shirrev-Adya (1991) analyzed the document /until 1986/ of the migration of Mongolian herders and cooperative members. They identify "ecological and geographic area of pastoral livestock" spatial and time interval is based on the nomadic patterns. The Herders migration pattern divided two-component; mountainous, steppe, also divided into five subcomponents; Khangai, Khentii, Central, Eastern, Govi.

Dr.N.Erdenetsogt (1998), academician M.Tomurjav (1999) did research about Mongolian nomadic patterns, features of pasture usage, organization of herders neighborhood, situation. Besides, they evaluated previous studies in this area. N.Khavkh /2000/researched logic and philosophy of pasture, Interconnection, and factors of affecting the relationship between pasture-livestock, in addition to Explaining Mongolian heritage methodology to connect, five elements of Buddhist philosophy. Dr. E.Ganbold / 2013 /In his book "The Tradition and Modernity of Pastoral Usage of Mongolian Herders" divide into 4 stages to the research of Mongolian nomadic people and studied traditional and modern methodology pastoral of herders in Mongolia. From the foreign scientists, ABD Simimov (1933,1934), Mongolian nomadic type was classified into 6 categories, VV. Growvorani (1979), divide 5 types of nomadic pastoralists and 9 sub-categories before the revolution. Bv Andrianov (1984), In his book "Worlds Nomadic population" nomadic people lifestyle, culture type, geographical environment, forms and issues of nomadic population, did research over nomadic population all over the world. British scientist. Caroline Humphrey and David Snyt / 2006 / Compared Herders husbandry, usage of pasture, household structure, changes in labor allocation, environment, ecology, urbanization, and settlement research have been done between Mongolia, Inner Mongolia, Xinjiang, Buryat and Tuva of Russian federation. Georgian scientist VM. Shaliladze (1979) writes a book named "Georgian animal husbandry and culture and socio-economic issues". In this book, he divides herders into four types herders of the steppe, herders of the mountainous area, moving herders, nomadic herders. There is any research work thoroughly did into the lifestyle of nomadic herders of Mongolia depending on the type of

animal husbandry and natural zones. As a result, many studies have been carried out on animal husbandry, but there is no research work dedicated to herders and employment of herders

#### **1.4.Research Question**

1. How rational is that Mongolian government policy on the livestock sector?
2. What are the challenges facing young herders? What factors influence it?
3. Does drinking water resource reduce in South Gobi province due to mining?
4. Are mining workers' wages affecting herders leaving their work?
5. Why do many young men not willing to work at livestock sector in Mongolia?

### **1.5. Research Hypothesis**

H1: Government policies are not favorable to herders.

H2: Herders' wages are generally lower than miners'.

H3: It is challenging to maintain a normal family life for herders.

### **1.6. Research Approach**

When I am doing this study I will use the quantity method and questionnaire methods.

I will focus onto relevant conversation and sampling method from the relevant herd household and herdsman in this study.

### **1.7. Research Method**

Therefore, a questionnaire will be appropriate to collect data from citizens. Because it is also quantitative research. Most the herdsman live in the country side that their living area is far away from each other. It is little bit difficult to collect data from all herdsman. Thus, research needs to narrow the population and must be defined sample size that will be Cochran's sample size formula

The study citizen stratified sampling technique. A Stratified sampling technique is the process by which a researcher stratifies the population in such a way that the population within a stratum (group) is homogenous with respect to the characteristics on which it is being stratified.

The researcher will do protest for check validity and reliability of the questionnaire. It will prevent to survey could not get satisfied result of final questionnaire.

### **1.8. Literature review**

Mongolian government conducts to encourage herdsman employment program. The main propose of the program is that develop young herdsman's ability of engaging in animal husbandry, restock herdsman who have few livestock, and increase income of household.

There are main arrangements that each level government must conduct it. First, the governments restock herdsman who have few livestock by the laon. But there are lot of minimum requirements that people who get involved in the project must be herdsman with at least 200 livestock. The people who get involved in the project must repay a loan to governments at 36 mounts later.

Second, in the training that related to engaging in animal husbandry, sharing experience and increase the income households. Each level of government must organize this training to a herdsman who must have livestock Thus, the government's policy that related herdsman only focus on

herdsmen and livestock number. They don't focus on the process of young people to become to herdsman. It's the main disadvantage of a certain policy.

### **1.9. Possible finding**

This study focus on the process of young people become to herdsmen. Because the researcher's main purpose is that discover what factors influence the process. Then, the study will find out below things.

Define social influence on the herdsman life.

Parents who herdsman expect what kind of social value from their children.

Define economic factors on how to influence young people's decision making.

How to social opinion pressure on parents.

### **1.10. Significance**

This study can suggest an academic conclusions to the government. Thus governments will know what do that how to increase the social value of herdsman, how to encourage young people to become herdsmen. If the government can do it, they sustainable handle food resources, agricultural, and safe traditional culture heritage.

# CHAPTER 2: LITERATURE OF LIVESTOCK HUSBANDRY FORMATION AND DEVELOPMENT

## 2.1. Global Livestock Production

Livestock production is the world's populations food, consumption, and the main source of livelihood, still exist. Livestock production is divided into three general groups:

Pasture or forage-based

Livestock husbandry-grain paired

Industrial form

These systems are classified into two or three general systems. The pasture-based production system is intended for the use of beef cattle, sheep and goats as well as meat and dairy products (multiplying by livestock). This type of animal is highly mobile, also able to find eat grass and plants in the pasture. Generally, the Livestock husbandry-grain paired kind of system is intended to develop paired farming and livestock husbandry as farming dominates, accompany livestock husbandry. We prepare animals to supplement many sources such as natural, planted and prepare (Batdorj.E, 2016, pp. 8-9).

The industrial type of livestock production system is there is usually no pasture land to graze which is fenced or semi-fence the animals, feed mainly on fodder.

Before the 20th century, most livestock production was based on pasture-based (ie, based on natural herbs for grazing by domesticated herbivores), and most of the time producers use their product. Livestock production systems based on natural feed plants are directly dependent on pasture ecosystems and are still in the western United States, South America, North Europe, and the European Mediterranean Territories, Africa, Asia, and the Pacific. These traditional and slightly modified pastoral livestock production systems are still in the form of livestock production in less developed countries and less-developed regions of developed countries.

Pasture and forage-based livestock production systems are essential to provide the world's food supply. Fodder plant growing pasture lands is 40 percent of the earth's surface, which is in this area are suitable for graze rather than cultivation. Also, 28-30% of the world's land, a large portion of forest land can be used for grazing animals. In the United States, the world's most industrialized country, 54% of animal feeds are either grazed or fed by nature. Across the Asian Highlands, such as Mongolia and Tibet, feeds almost all grazing.

Most of the feed-based and crop-producing combined systems use pasture management as well as farming techniques for their production systems. Although global livestock production is largely



using a combination of forage and livestock production systems and industrialized systems, both traditional and slightly modified pastoral livestock production systems are still using the resources of the land.

The market is still progressing to reduce instability for the population depends on the natural resource in remote rural areas in North America. Political, legal, and economic support local agriculture, besides the urban population.

The urban population is directly dependent on agricultural production in rural areas, and the global agricultural production system is important for producing and supplying people with feedbacks and supplies for production, supply, and value-added supplies to provide quality and safe food. Mongolia needs to learn from other countries who transfer to the market economy successfully, and it is possible to choose a system suitable for the agriculture and climate of our country.

## **2.2. The form and type of Livestock Production**

In Modern times It is difficult to classify agricultural entrepreneurs in the form and format of a single form. Agricultural employment and entrepreneurship are rated 3rd in world employment, also so many types of employment still exist such as peasant husbandry, herding families, household farms, cooperatives, and non-household businesses. However, agricultural entrepreneurs can be categorized as follows. These include:

- Being a self-employed or commodious business,
- large or small enterprises by size
- how to regulate land relations,
- whether they are engaged in labor,
- employment levels

In developed countries, the basic form of agricultural entrepreneurs is household farmer husbandry. In developing countries, agricultural production is largely peasant husbandry. There are substantial differences between peasant husbandry and household farming. The peasant husbandry's main feature is preserved cultural values, composed by fragmented stratification of society which is our main husbandry. On the other hand, peasant husbandry is dominated in a poorly developed agricultural production country. This is the default type in agricultural production. About one-quarter of the world's population produces household farms and produces basic parts of agricultural products. The herding family in Mongolia is a small-scale, pastoral community-based, family-based, can only provide own household. In the modern world, every country has recognized that no future industry

can grow in a way that does not meet the optimal relationship between economic growth, human development, natural resources (Mendsaihan.S, 2016, pp. 9-11).

Pastoral development is characterized by five key factors: herder-livestock-pasture-capital-management. Pasture, livestock, and labor have played a major role in Mongolia. Concerning other than livestock fence, fodder and water supplies, Mongolia's livestock sector has limited capacity and technological change in animal husbandry. For this reason, herders' management approaches can only be directed to support their livelihoods by raising their livestock. There factors affecting the productivity of the livestock sector defined by 4 direction which is Knowledge, education, and experience (human factor); technology (technological factor); investment (capital factor); diversification, collaboration, and cooperation (social factors). Herders' experience in herding here is quite satisfactory, but the technology reforms have not been made in animal husbandry, investment has dropped dramatically from the previous system, and there is no mechanism to cooperate with herders in the new market environment and there is no system to sell their products in the market.

Herders try to increase the number of livestock to increase their income, which is the highly volatile cause of the drought and the dzud. How real is the attempt to increase herder income by increasing the number of livestock? This can be explained by the rise of the "devil's circle" or the livestock, the commodity prices of raw materials that fall to the market, decreasing herders' income, and increasing their aspirations to increase the number of livestock as income decreases. Ultimately, natural factors that limit the number of livestock, overgrazing, are easily affected by droughts and dzud, and the herder's household and the state budget also suffer huge losses. Contrarily, the profitability of one animal, which is a critical factor in herder income, is mostly downward. The next crucial factor-the market price of commodities and it is not going up but rather decreases year by year and seasonally. Herders provide themselves such as meat, milk, and dairy products from the livestock, vend excess products on the market and buy from the market consumer goods, flour, and other food products. Barter /good exchanging form/ still dominate in the rural area. Comparing 2015 to 2018, the Herders vend price is lower than 66.5 points compared to the purchased goods. Consequently, the price of livestock products is lagging behind the commodity price increases every year. It has a significant impact on the income and livelihoods of herders. This is primarily a factor that affects the livelihoods of herders in the Gobi region, far from centralized markets.

In the early stages of the transition to a market economy, the number of herding households and herders increased from the number of herd sizes, and the number of herders in recent years has been declining. Labor productivity in the sector is insufficient. For instance, in 2005, Mongolia had 364.3 thousand herders and 30.4 million livestock. In 2018, Mongolia had 288.7 thousand herders and 66.5

million livestock. During this period, the number of livestock per herder increased from 83 heads to 230.3, which is not indicative of the increase in the labor productivity of herders. There is limited opportunity to improve herder livelihoods by raising the number of livestock per herder household. the traditional techniques that less productive livestock breeding in vast pasture land. According to our estimates, the traditional techniques that less productive livestock breeding in vast pasture land is not suitable to the 5-membered herder family during nowadays environmental and ecological unpleasant changes. This can be seen from the history of Mongolian thousands of herds decrease due to droughts and dzuds.

### **2.3. Formation of Relationship Marketing in Rural Area**

The process of market relations is relatively weak in rural. Herders have not been able to communicate appropriately with the market, often traded barter, raw material processing level is low, many of these are the main reasons for China's manufacturers' set price in the domestic market. The main reason for this is the animal origin raw materials processing factory is underdeveloped, lack of technology. Due to these factors, demands limited in the national commodity market. Even our country has successfully shifted to the market economy, still can't create a structured marketing system to subcontracting the free flow of agricultural and industrial commodities. It is necessary to consider Mongolian agricultural products and some of the unique features of commodity marketing. These include: (Odhuu.G, 2019, pp. 11-12)

The supply of livestock products, the raw material is seasonal, and resources are limited. Producers (herders) customers (population and processing factories) are distant from each other, while it is difficult to sell products and collect raw materials, as well as it needs additional cost. Livestock cannot be fully recovered from infectious and non-infectious diseases as a lack of export-oriented livestock breeding causes limited opportunities for foreign markets.

The lack of access to roads, communication, information infrastructure in rural areas has a detrimental effect on creating an effective marketing channel. The size of the domestic market of agricultural products is small, and the market influence of the neighboring two significant countries are strong. Intermediate traders are "changers." The small intermediary traders who are known as "changers" play an essential role in the marketing channel. For instance, 78.5% of rawhides for sale in domestic markets are handled by intermediary traders (Kandsuren, 2001).

Agricultural cooperatives and companies which are active in some soums, but the position of the marketing channel is weak. Representative offices of the processing plants are needed in rural. Some of the major cashmere and meat processing companies are trying to acquire this kind of raw

material, but their activities are limited. Direct supply to the market. Herders and farmers close to large urban centers are selling their raw materials and products directly to processing factories. It is not universal. Wholesale chain store. The goal is to develop the private sector based on the Government's support, but some goals have not been achieved. In the future, it will be more effective possible to organize to paired up livestock production and marketing products with herders' participation. This can be explained based on the model of A.V.Anayov's theoretical model.

#### **2.4. Development of Livestock Husbandry and Processing Industry**

This issue never actualizes if No sustainable development of livestock breeding without the developing of the national processing industry and increasing competitiveness. Considering this argument: It needs to develop start-up Modern advanced technology-based processing factories by direct international loans and grants and investment. It should be emphasized that the export output will be increased through the development of small-scale meat processing factories, especially in the border areas. It needs to establish a search system to discover new market channels for the export of raw materials for livestock products. It is an essential strategic objective as developing agricultural, and industrial sectors with the capacity to mutually support and develop with improving their competitiveness, for ensuring sustainable income growth to decrease poverty and unemployment in a rural area.

Natural disasters, dzuds and pasture degradation

In the last 60 years, The number of livestock losses per annum is classified as pleasant, average, and unpleasant, and the likelihood of their occurrence is 13 percent in a pleasant year, the probability of an average annual 20.4 percent and 66.6 percent in an unpleasant year. It is clear Pastoralism will no longer be free from drought and dzud. In recent years, global climate change, rising temperatures in summer, and extreme cold in the winter are increasingly attracting worldwide attention. In Mongolia, time to time the natural risk has a significant impact on livestock production to livelihoods of herders. The fundamental factor of livestock breeding development in Mongolia is pasture, and the fate of the industry depends on how to protect and improve it. There is only one factor limiting the number of livestock, which is the capacity of the pasture dependent on that year's precipitation during the growth period. According to the study, drought covering 25 percent of Mongolia's territory occurs once in 2-3 years, and about 50 percent of the entire territory's drought is 4-5 years. Pasture degradation and drought are causing the impact of desertification, a more rapidly lowering capacity of the pasture. If the researchers say that 80% of the country's territory is affected by desertification, it is necessary to reduce the total number of livestock in Mongolia by 2-2.5 times. Pasture yield varies

greatly depending on the situation of season and weather of the year. Based on the available data, pasture carrying capacity is 82.5 million sheep in a pleasant year, 68.8 million sheep in the normal year, and 55.5 million sheep in unpleasant years. (Mendsaihan.S, 2016, pp. 12-15)

The main reason for the massive degradation of pastureland near town and central regions is that the population from remote parts of the country is migrating to markets in the central region. The herders have a historical tradition of managing pasture use through regular migrations, which are one of the key ways to preserve pasture ecological balance. On the other hand, to eliminate risk into livestock production. However, the number of moving rotation drastically decreased; in most of the khangai and steppe zones, most herders have been live in the four seasons near the winter shelter. The pastures used only during the season have been overloaded in recent years, and nomadic pastures traditions have been lost. Pasture ecological imbalance is become more apparent due to the left behind, lack of regulation of pasture land use.

Pasture degradation is associated with an unpredictable natural phenomenon such as droughts, and multiplication of rodents, as well as herd population increasing in certain places, overgrazing, loss of herd structure, and fires, are related to the human's inappropriate operation. How realistic is this idea of pastoral animal husbandry produce the cheapest product? No one considers hay and herbs are eaten from pasture throughout the year. This is the "uncertain cost" of modern economic theory. Approximately, a per livestock eats 70080 MNT priced hay from pasture is estimated annually. However, only 76 MNT spent on improving the meadow from the state each year.

Pastureland Beneficiary, which is herders, does not spend much of their money on their pastureland. From this situation, we can understand that how much attention give to protecting and improving the rangeland. The conflict between pasture degradation and the lack of quality of livestock has led to a necessity for choosing the new methodology of pastoral development.

### **Pastoral livestock asset turnover**

The herders' assets turnover of pastoral livestock husbandry is unique. According to the survey, herder households make up over 80 percent of their average annual income from livestock. This is not a stable income, seasonal, and cash flow disrupt most of the year. But their use is constant. Herder household income can be divided into four categories by month. These include:

months with no income: January, February, March, December;

Low-income months: June, July, August, September;

moderate-income months: April, September, October;

Months with relatively high incomes: May, November.

There is a lack of cash for herder households Depending on the peculiarities of pastoral animal husbandry. Therefore, it is necessary to consider these features in developing rural financial services. Generally, herders are spending a large portion of their income (89%) on household consumption, a small portion (11%) drought and dzud prevention production costs, and do not invest in accumulated savings to expand their production. In such circumstances, the banking and financial services in line with pastoral livestock breeding have not been developed yet. The risk insurance policies for livestock insurance are missing, which indicates that the financial and economic environment for herders has no favorable business environment.

### **2.5.The Formation and Current Situation of Mongolian Livestock Husbandry**

The New Stone Age 8 thousand years ago has begun to intensify the domestication of animals in Central Asia. Most sheep and horse bones were excavated in Tamsungbuul, Dornod province, where researchers found that animal husbandry and herder tribes were formed from 4-300 BC.

Mongolian herder tribes have that live rotation along in four-season, which is extreme weather in grassland. Even the drought and the dzud happen, in the winter's 30-40 degrees coldness, in the summertime, reach 30-40 degrees herders are herding their livestock in the grasslands. The Mongolian herds have biological coordination that the animals are losing their fat in winter, the spring comes they breeding recover in summer, and gain power in autumn. The benefits of the product are well suited to that natural feature.

Livestock still has the leading economic sector that supplies all the needs of Mongolians, food, wear, fall, and trade. In some books, the "Animal Husbandry Institute" was established in 1923, and it was recorded that the livestock census was created and registered. Census was written in Mongolian, Uighur, and Chinese languages. Even during the Manchu rulership /Mongolian minor kings area/ livestock was the basis of the country's economy and livelihoods, and there were lords, ordinary herders, and churches herd a distinguished each other. Also, poor people graze livestock of wealthy peoples and (Mendsaihan.C, 2017, pp. 15-17)it is worsening the difference between wealthy and poverty. In the 1920s, livestock was the basis of the economy and the people's livelihood, accounting for about 90 percent of the nation's income generation, camel and cow carriage is main freight transportation, horses carry post communication. According to Russian scientist I.Matsky, the number of livestock in Mongolia was 12.7 million in 1918, 1.5 million in horses, 1.4 million in cows, 300,000 in camels, and 9.5 million sheep and goats. Since the 1950s, measures have been taken to improve the quality of livestock breeding, material base, and herd quality. During that time, carried

out establishing joint ventures, fodder farms, wells, pastureland irrigation, veterinary services, breeding farm, creating new livestock breeds, intensive livestock, and dairy farms they were acting.

There is a wide range of perceptions and expectations about the Mongolian livestock sector. One of the most common optimistic concepts is that the nomads live in nomadic culture, and customs are preserved forever. On the contrary, some people have pessimistic views that pastoralism is underdeveloped. The modern economic system is dubious in this field, non-sustainable, and leads to poverty in the herders. Also, another part of people thinks that it is possible to develop modern livestock breeding through sector expansion rapidly, increasing productivity, sales volume increase a short time, and raising herders' income.

There are a fair and misunderstandings among these views, and it is not easy to understand the livestock husbandry sector realistically. Mentioning some facts:

Firstly, the livestock sector has never been decreased to about 20 percent of GDP like today. The livestock husbandry sector has never been insignificant to the country's economy. In recent years mining revenue increasing, in current circumstances, livestock sector participation is expected to decline to the economy.

Second: About 40 percent of the total workforce is directly dependent on the livestock sector and will be one of the most critical areas of the economy for employment despite the decline in GDP ratio;

Third, the livestock sector is an essential sector of production, depending on pasture conditions and its availability, and is vulnerable to climate risks.

Fourth: By the beginning of the 1990s, state farms and collective cooperatives have become disband that the sector has changed dramatically and is no longer in the future.

In the 2018 statistics of the National Statistical Office, 32 percent of the population lives in rural areas, of which 30.5 percent or 285691 people are engaged in livestock breeding. Over the past 20 years, the number of herders decreased by 22.6 percent due to factors such as the progress of the country, social change, weather, and climate. Although the living conditions of herders are getting better by technological development and socioeconomic status, they are significantly different from those in urban areas. Mongolian livestock production is entirely dependent on natural feed plants. For thousands of years, livestock was the primary agricultural and economic basis of Mongolia. It is still an essential part of the Mongolian economy.

In the socialist period, the government emphasis on developing agricultural production to grain and crop planting. ), it has helped to provide a certain amount of animal feed to both in livestock breeding (Livestock co-operatives or cooperatives) and combination with crop-livestock breeding

(state farms and farms). Both the crop and animal husbandry sectors have changed dramatically since the transition to a market economy in the 1990s. Changes in the initial period of transition and their impacts were relatively well documented during the collapse of the collective and the state farms, which helped to prevent to disappear pasture-based production system and the herding traditional herding practices. Moving from a collective form into a "transition" economy, the collapse of the union and the state farms to the herders have lost their social services, which led to the fact that livestock production was getting more traditional form. The traditional form of restored livestock production in transition is created a misconception in the community to seems like Mongolia is re-developing traditional 'nomadic pastures' until now. Indeed, the present form of livestock production is the response from producers to the following situations.

This is: infrastructure support collapsed in the socialist era

Privatized livestock, There were no alternatives to pasture used for livestock breeding, direct state support to production is gone, herders gradually move into a market economy.

While agriculture and animal husbandry have received formal assistance in the development, this assistance has not been fully addressed to meet the real needs of Mongolia's livestock sector and livestock production. There is insufficient and inadequate funding for the development of this sector as a strong market.

During the 2001-2003 droughts and dzuds, massive losses of livestock (about 9 million livestock during this period) have led to the create another symmetry of pastoral livestock production and the need to increase further flexibility and improve productivity.

The Ministry of Food, Agriculture and Light Industry (MOFALI) has proposed to develop an intensive multi-crop farming and animal husbandry system, which is expected to reduce the loss of livestock during the meteorological disaster further. A more intensive management animal production system ensures that food security and diversity of products are required for the market. This can be seen from the second attempt by Mongolia to produce semi-industrialized agricultural products with intensive management.

The first attempt was made to spend a vast amount of funds in establishing a pool of farms and cooperatives during the centrally planned economy. Consequently, intensive livestock production systems combined with forage would have to face both market-advantage and constraints. Previous supports in the socialist era have been lost.

The main reason for the collapse of livestock breeding and state-fund farms was the high cost of accompanying the production process. Funding, management, and investment required for the production of a fund are inadequate for the quantity and quality of the products to be produced.



Similarly, livestock-based commodities based on the unified organizational traditional pastoralism have ceased investment in the centrally planned period as it ceases to exist. Increasing foreign revenues to increase productivity over the long term, such as fodder preparation, cannot control natural risks such as drought and dzud. Finally, it is directly linked to the increased cost that accompanies the investment in the production of the product

State-run firms dependent on foreign investment are very vulnerable to any natural hazard, substantial and variable costs, which are no longer able to recover since the end of the Soviet Union's support. In the open market economy, the agricultural sector, in particular, the livestock sector, is becoming a "commercial" production system. Although it is not easy for Mongolian livestock production to become commercial, it is not new. Such a transition has already occurred in Europe, Australia, New Zealand, and North America (Amgaabazar.G, 2009, pp. 18-20).



## **CHAPTER 3: HERDERS EMPLOYMENT**

The parliament endorses "Sustainable Development Concept of Mongolia", "Government Policy on Herders", "State Policy on Food and Agriculture", and "Mongolian Livestock" National Program, Government of Mongolia Action programs between 2016-2020 identify long-term and medium-term policy objectives for the livestock sector. The objectives of these policies are to be implemented by the Government of Mongolia in the annual state budget and fund.

The livestock sector accounts for 10.6 percent of GDP and 8.4 percent of export earnings. Livestock production has been increasing every year, reaching 3.7 trillion MNT in 2017, an increase of 5.9 percent from the previous year. Livestock products and raw materials exports reached 580.0 million USD in 2018, up by 1.8 times compared to the previous year's exports of 263.5 million USD. 30% of the total workforce is working in the livestock sector, and 25.9% of the total household have livestock. In the four seasons of the year, 169.7 thousand herder families engaged in animal husbandry production, and 59.2 thousand families with livestock that raise livestock as auxiliary husbandry. The number of herding households increased to 230.9 thousand in 2018, increasing by 1.9 thousand households over the previous year. Herders engaged in animal husbandry production reached 288.7 thousand at the end of 2018, herders aged 16 years old were 0.3 percent, herders aged 16-34 were 33.0 percent, herders aged between 35 to retired were 54.2 percent and retired herders were 12.5 percent. Deputy Prime Minister mentioned in his presentation.

In 2018 Livestock reached 66.5 million head of livestock, increasing by 240.0 thousand heads or 0.4 percent from 2017. The increasing number of livestock is a major factor in increasing livestock production. On the other hand, negative impacts on the environment and nature can be seen from a wide range of studies.

### **3.1. Activity and policy of Mongolian state about herders**

In the livestock sector, there have been major changes in the increasing livestock numbers, livestock ratio, and herd structure. Multi-year average, the total livestock structure comprises 21.7percent were horse, cattle, camel population and 78.3 percent were sheep and goat population. Currently, the proportion of horse, camel cattle population decreased, reached 13.2 percent while the proportion of sheep and goat population increased, reached 86.6 percent. The livestock spent on consumption which is 90.8percent were sheep and goat, 9.2 percent were horse, camel, cattle. In 2017, expenditure on livestock consumption increased by 1.4 million heads or 11.1 percent compared to the previous year, total livestock's 22.9 percent or 14.1 million heads of livestock used for food consumption. By the end of 2018, exports of meat and meat products reached 54.7 thousand tons,

while meat exports increased 1.9 times more than in the previous year. Meat export revenues reached USD 146.5 million.

The Government of Mongolia is aiming to improve the achievements of the livestock sector, improve the legal environment for livestock production, intensify economic circulation and increase economic growth within domestic resources, expand investment and exports. Within the framework of establishing an optimal system of the roles and responsibilities of livestock producers, the Parliament has adopted the Law on Livestock Genetic Resources and the Law on Animal Health and has been in force since 1 June last year. Also, the Government of Mongolia has stated that within the "animal health" program 21 types of vaccines, 23 types of diagnosing devices are planned and manufactured domestically to diagnose seven types of diseases.

The Deputy Prime Minister of Mongolia O.Enkhtuvshin introduced the current pasture usage, protection and implemented activities as Mongolia's pastureland has decreased by 19.9 percent or 27.9 million hectares in 2017 reaching 112.1 million hectares compared to 1961. One-fifth of all pasture lands were transferred to mining and urban areas. The number of sheep per 100-hectare pasture area was 32 in 1961 and reached 99 in 2017 and the grazing pressure increased by 3.1 times. In 2016 according to research and analysis of grazing conditions, 57 percent of Mongolia's total pasture land has changed from degradation to 13.0 percent slightly, 21.1 percent moderately, 12.8 percent is strong and 10.3 percent is a risk to completely desertified. Compared to the 2014 base data by 2016 The degraded pasture rate From 65 percent to 57 percent dropped but threatened with desertification pasture land increased by 3.3 percent.

The Government of Mongolia is implementing social protection policies and programs directly to herders, one of which is the implementation of the lowering retirement age for 5 years and the decision to establish a retirement pension which is beginning to next year. There is few issue rise up during implementing this decision which is since 1995's The annual livestock census A account and related documentation have been lost. Because of this, it was difficult to determine the herders' pension. In order to resolve this issue, resolution No. 71 of 2018 of the Government of Mongolia adopted the "Procedure on Pensions for Herders", Order No. A / 77 of 2018 by the Labor and Social Welfare Minister, "The charter of the Council for determining the payment period of social insurance premiums". according to this resolution and charter from the social insurance department. The council is responsible for determining the time when insured the person who worked as herdsman and paid the social insurance premiums. The council working as defined by law, according to a fair principle, based on justified documents that prove the time of herdsman were herding livestock in that area

since 1995. This year female-25, male-136, a total of 165 herders can set up their pension through this law operation.

Herders state forum held in 2017 in Mongolia. During Forum considering the issue of animal health and protecting Mongolian livestock genetic. On this result, the Parliament has ratified the Law on Genetic Resources for livestock and the Law on livestock Health and has been preparing for implementation on 1 June 2018. The "Sustainable Livestock Development 2018" Herders Forum explored the basic laws of the livestock sector, introduced the Law draft on Pastureland Law and received herders' proposals in the law draft.

The Government initiated the "Meat and Milk's first campaign", also initiated a nationwide campaign of veterinary and livestock breeding in spring and autumn, "Livestock Health", "Industrialization 21: 100" and "Cashmere" national programs have been begun implemented in 2018. Besides, in the frame of development policy on livestock sector the national program on "Supporting Intensive Livestock Husbandry", "Healthy Foods-Healthy Mongolians", "Mongolian Herders", "Supporting Small and Medium Enterprises" and "Cooperative Development" has been updated and it's getting started.

In the future, Mongolia has the potential to become an organic food exporter considering the growing demand for natural products from domestic and other countries. To increase productivity of livestock sector and to become a leading economic sector, we need to focus on the quality and safety of the raw materials to be marketed, every herding household should use their national manufacturer's warranty signs, to introduce advanced technology, innovation, it is necessary to use rapid electronic technology for providing information to herders regularly. From the Mongolian Ministry of Labor and Social Welfare for the young herders and herders who have a few herds to provide new information on herding practices, to provide entrepreneurial skills, to getting livestock activities also for maximizing household income (Gerelmaa.T, 2018, pp. 20-22).

Beginning in 2012 Herder Employment Promotion Program has been updated annually. Herder Employment Promotion Program Within the framework of the Employment Promotion Activity, "Herder Employment Promotion Program has been approved by National Employment Council's the Resolution No4 12th of December 2012, resolution No5 13th of January 2014, Resolution No7 12th of February 2015, resolution No9 16th of December 2015, resolution No1 27th of January 2017, resolution No1 19th of January 2018.

In between 2013-2018, 13742 herders were involved in the Employment Promotion Program, 7752 jobs were created and 26,156,120.0 MNT were spent, and the

Он	Хамрагдсан иргэдийн тоо	Олгосон санхүүжилт	Эргэн төлөгдөх дүн	Төлсөн дүн						Үлдэгдэл			Нийт үлдэгдэл	Эргэн төлөлтөйн хувь
				2014	2015 он	2016 он	2017 он	2018 он	Нийт	Хэвийн	хууцаа хэлтэрсэн	Найдваргүй болсон		
2014	759	3,556.8	1,778.4	2.5	44.2	216.2	685.5	293.9	1,242.3	91.8	508.6	11.9	612.3	70
2015	1268	5,648.8	2,824.4		55.8	557.0	1,261.6	342.5	2,216.8	-1.1	736.3	7.0	742.2	79
2016	1031	4,370.3	2,185.1			78.8	593.0	881.8	1,553.6	349.2	345.2		694.5	71
2017	1028	4,470.6	4,470.6				155.3	902.4	1,057.8	2,627.8	99.6	4.0	2,731.4	24
2018.10.30	1090	4,891.9	2,446.0					29.7	29.7	4,858.1	6.1		4,864.2	2
Нийт	5176	228938.4	13704.5	2.5	100.0	852.0	2,695.4	2,450.3	6,100.2	7,925.8	1,695.8	22.9	9,644.6	49.2

Source: Information on financial support provided by the herders under the Employment Support Program.

Table 3.1. Mongolia statistical compilation of Mongolia

average implementation was 98% percent. In the "Restocking with livestock program", 1175 herder households' 2916 herders have participated in the restocking program. They spent 5,300,177.0 thousand MNT included buying 40,404 sheeps, 49350 goats, 2127 cattle and 361,964.0 thousand MNT spent for 3387 herders from 2260 households to Entrepreneurship on livestock, training on herding livestock, experience sharing meeting. The granted financial support, payment, and residual data Within the framework of the Herder Employment Promotion Program

Also, the Ministry of Labor and Social Welfare has been implementing a pilot project "Employment Promotion of Contracted Herders" in 2018 for the reason to make unemployed people a place of work and to increase household income. In this project herder who has more than 800 head livestock and willing to hire assistant herdsman, on the other side, young people who want to breed livestock and migrate to rural areas, started to participate. The employer concludes that the contractor herder household will be paid no less than the minimum wage, and will be paid 50% of the employee household's social insurance premiums. The contracted herder household plans to have at least 2 working-age members and 18 to 59-year-old citizens who wish to migrate to rural areas. The Labor and Welfare Service Center will cover the cost of the eviction, 50% of the social insurance premium and 100% of the health insurance premium as submitting to the project. Herding families or contractual herders to hire who Interested to participate in this project, currently living in the province and village centers, as previously herding livestock or interest to be a herder. Those who meet the above requirements registration are up to the 20th of August.

### **3.2. Current Situation of The Mongolian Herders Employment**

When the transition from a centrally planned economy to a market economy, changes in the livestock sector in Mongolia can be categorized as follows: These include:

Changes in the Production frame: The livestock industry is being run by private herding families. During this period, animal husbandry entrepreneurs' space is getting smaller and on the other hand, can't increase production even numbers multiply.

Changes in the processing industry. The majority of loose-sized factories were in stagnation due to the lack of technical and technological outbursts during the transition from a centrally planned economy to a market economy.

Changes in price regulation. With the release of prices, a pricing mechanism for livestock products and commodity markets has been established, and the legal and regulatory status of supply and demand for products has become more and more developed.

Changes in sales channels. The preparatory system used during the old system was broken down and instead of this there is didn't established a sales channel suitable for market conditions which are one of the key issues of marketing.

Changes in the business environment. Over the past two decades, major laws and regulations related to business activities have been revised and aligned with market relations principles, it is reflecting the legal environment for regulating business activities. However, it is possible to conclude that the government, banking, finance, trade, and investment policies are not very favorable for livestock entrepreneurs.

Changes in the training for the successor of herders. There is no progress without investing in precious capital which is humans. Due to the transition to the market economy, herders' employment has become worthless and herders prefer to educate their children, and all professional schools preparing young herdsman have been stopped. Therefore, you can see the herders' knowledge, education, and training are generally left behind. As for South Gobi province, herders who participate in this research emphasize that herder household members are no interest in sustainably work in the livestock sector, interested to work on the mining sector.

In the past, the issue of herder livelihoods has been less focused. However, it seems that enough to speak about the development of livestock breeding. First of all, herders need to be aware of the new methods of entrepreneurship in the livestock sector. Some herders do not believe in the fact that some households around the Ulaanbaatar provide their consumers with stable milk in the four quarters of the year.

It's time to get rid of the idea of earning money without investing in production. It is possible to solve this problem when it comes to change our attitude towards development. Problems in the livestock sector are the consequences of herders' succession and migration to young people in urban areas. There is a shortage of labor force in the sector and consequently, harm sustainable pastoral livestock breeding. In particular, the number of young herders has steadily decreased over the past 20 years. In 2000, herders aged 15-34 accounted for 55.9% of total herders, and in 2018 this figure dropped to 33.3% decreased by 22.6 percent. (Gerelmaa.T, 2018, pp. 22-25)

The main reason for the migration to urban areas is the availability of jobs and the high monthly income. For instance, in 2017, the average household income per household was 1.1 million MNT in urban areas and 896.4 thousand MNT in rural areas. Consequently, one rural household income is 24.2% less than the urban area. On the other hand, young people in rural areas have a low interest to run livestock husbandry These include:

Current herders decreased interest in their children to become herders, and their involvement in livestock husbandry is very difficult and hard work, so herder parents are interested in sending their children to school in the urban area, and they interested in choosing a learning area that no involvement in livestock husbandry.

The ideology dominates that young people herding in rural areas is not a modern lifestyle, and it is lagging behind the socio-cultural development. The underlying reason is that the current social system has developed weakly in a rural area compared with the urban as well as the income and livelihood of herders in the livestock sector are much lower than in other sectors.

Young male herders in rural areas are increasing and women marrying them are reduced. This is because herders are more likely to focus on female children's education than males. The parents are more interested to inherit their livestock husbandry for male children. According to the survey in 2009, 60% of school drop-outs were among the poorest herding families' male children.

One of the many problems facing herders is the lack of availability of cash throughout the year. The overbreeding goat population is a major source of cash while it is considered to be one of the causes of pasture degradation. also, this situation has the potential to undermine the livelihood security of herders. Herders are loan high-interest rates from banks for their cash shortage, which are compensated during the spring of the cashmere. Because the herding family usually cash shortage, and they pay little social security fee, thus retirement pensions are minimal at the time of retirement.

### 3.3. The Challenging Issues of Mongolian Herders

Mongolia's livestock sector contributes 10% of GDP, 28% of the total workforce, 88% of total agricultural production, 6.6% of export earnings and the main source of livelihood of 56% of total rural households by 2018. (Gerelmaa.T, 2018, pp. 25-26) The number of livestock in Mongolia has reached 66.5 million heads in 2018, which is an unprecedented success. But pasture degradation, decrease in livestock productivity, livestock diseases and herder social issues remain issues in the livestock sector. These issues directly or indirectly affect the decrease in people who have a desire for herding in the livestock sector. Considering these challenges:

#### Pasture degradation

Mongolia has 110.5 million hectares of pastureland and 65% of total pastureland changed the original state and its degraded. (Altanzul.O, 2015) The main reason for pasture degradation is due to the increase in inefficient animals, which are slow in economic circulation. The number of livestock in 2018 exceeds 25 million sheep and goats in Mongolia. (Enhtuwshin.O, 2018, pp. 26-29) the number of livestock exceeds pasture capacity is the reason for the loss of pasture resources and further degradation of the risk of dzud and resulting in the loss of millions of animals in natural disasters.

Grazing pastures Before the regeneration of the pasture plant is a major cause of pasture degradation. as well as pasture land in remote areas is not properly utilized due to herders' moving space and the number of migration patterns decreased. Water sources, rivers, lakes, ponds, springs and villages and provinces downtowns area pastures are significantly degraded and losing their potential for rehabilitation from degradation due to the number of livestock has increased dramatically.

Pasture issues in Mongolia are included in the revised "Law on Land" however, there is no integrated state legal institution with a regulatory or legal framework that addresses the issue due to lack of policy integrity and sustainable pasture management. For example, land ownership, possession, use, and pastureland use plan is the responsibility of the local self-governance agency, furthermore, land cadastre and cartography are the issues belong to Land Administration, Geodesy and Cartography, Assessing pastoral status belong to Hydrology and Environmental Research and Information Institute and the pasture issue of the Otor (Altangerel.O, 2013, pp. 26-27) belongs to Food and Agriculture and Light Industry Ministry.

Livestock productivity and economic downturn in the sector.

The traditional approach to livestock production focuses on raising the number of livestock to "expansion of reproduction" but it is not intended to increase the quality of livestock or productivity of one livestock. Mongolia's rapidly growing number of livestock in recent years has contributed to economic growth, but the profitability of one livestock has not increased. For instance, in 1989, the



value-added from one livestock was 37.5 thousand MNT, and in 2018 this indicator has not changed much but is decreasing.

Statistics show that livestock productivity decreases. For example, in 1990, 6.85 million livestock slaughtered and 132.3 thousand tons of meat was prepared, and the one whole meat weight was 19.3 kg. In 2016, a total of 193.1 thousand tons of meat was prepared by 11.6 million heads of livestock slaughtered and one whole meat weight decreased to 16.6 kg, down by 13.9%. Mongolian cows average milk was 2.6 liters per day, the average duration of milking was 6.7 months per year, and the coverage rate was 92.6% percent, in 2015 the milk yield was 2.1 liters, 5.9 months for milk, and coverage rate was 86.4 percent. In 1998, mature camel wool yield was 4,540 grams and sheep's wool yield was 1,446 grams. In 2017, camel wool was 4,381 grams and 1,103 grams of sheep (Ganhuyg.N, 2018, pp. 27-28).

The decrease in livestock productivity has been caused by natural factors such as pasture degradation, drought, desertification, rivers' and lakes' shortage, and climate change, on the other hand, livestock mortality, increasing spontaneous abortion, unmanaged livestock breeding, and reduced animal movement due to the degradation of livestock health. Furthermore, livestock meat exports are not sufficient enough to impede the circulation of livestock. The biggest obstacle to exporting meat from Mongolia is the outbreak of animal infectious diseases and is still unable to meet international health standards. Despite the occurrence of livestock infectious diseases in Mongolia, we should announce a calm region without the animal disease and establishing a system to identify and trace the origin of the livestock in the non-disease zone. Unfortunately, this work still has not sufficient enough. One of the main reasons for the decrease in the economic profitability of livestock entrepreneurs is livestock service consultancy or "Extension Advisory Services" is low access and the lack of understanding of the importance of this service to herders. Reducing the negative impacts of factors to decrease livestock productivity, livestock numbers, and head. the animal disease, livestock breeding, drought, dzud, are the mitigating factor. We should include in the extension service to the dissemination of knowledge and information, take immediate action on-site.

### **Livestock health and food security**

The livestock sector has a significant impact on human health and global food and nutrient security. Ensuring the implementation of "Healthy Foods-Healthy Mongolians" included in Mongolia's National Security Concept, The Government's Action Plan for 2016-2020. Animal health and food security are important in protecting public health. There is a lack of funding for animal health. For example, prevention of diseases, the cost of animal diseases is insufficient.

The supply of medicines and fuels for veterinary services is weak. Herders are highly interested in veterinary services, but this type of service is high price. For example, veterinary service cost per sheep in each year is approximately 50 thousand MNT and in some cases cost much more than that. In other words, it is impossible to profitable after paying for this high cost. Also, herders are arbitrary health care by themselves and using the non-professional method to treat their livestock. For example, Herders take medicines from a veterinary pharmacy and injecting livestock is much higher among rural herders.

Livestock density increased due to the increase in livestock numbers and migration of livestock. This causes an increase in the risk of spreading livestock diseases. For instance, between 2016 and 2018, for a double count of 598 soums were infectious diseases, which is 1.9 times higher than the 2006 figure. However, the number of livestock in 2016 is 1.5 times more than in 2006. In other words, the number of soum infectious diseases that appeared (double-counted) increased more rapidly than livestock numbers. Mongolia does not have a system of integrated data and information that the percentage of total livestock is healthy and what percentage is produced in healthy zones. Consequently, we can't confirm that its products are healthy and secure in the international market. Also, it cannot be sold in sufficient quantities in the world market. Thus, herders are less interested in slaughtering animals and selling meat.

The barriers to a successful implementation of the Law on Animal Health are: Firstly, among the government officials and veterinarians are lack of understanding the basic principles of this law, secondly, the development of new veterinary standards and amendments to relevant regulations is slow, lack of professional staff to do this work, thirdly, opposition from veterinary drugstore owners and fourth, the purpose of increase meat exports and reduce livestock numbers and the international market is not enough to expand.

Because the state does not finance the cost of disease diagnosis and disease prevention, herders are responsible for the diagnosis of livestock diseases, resulting in a higher incidence of livestock disease and subsequent infections. According to the current system, cure after the disease, cleaning, and sanitation cost is high and there is no system to finance the prevention of livestock diseases.

The reason for this is the lack of funding for the protection of one livestock's health. For example, in 1989, one veterinarian was responsible for 13.5 thousand heads of livestock and this figure tripled to 39.2 thousand livestock in 2018. Also, graduates who graduated from veterinarians do not work in the local area in his or her specialty. For instance, in 2011, a total of 119 students graduated from the Mongolian State University of Agriculture as a "veterinarian" which are 74 or 62.2% worked in 2015 (Ariunzaya.A, 2014, pp. 29-31).

This is due to the lack of jobs in rural areas, low salaries, and poor working conditions. For example, During harsh weather conditions necessary to operate a veterinary examination, diagnosis, and veterinary services in large areas which are lack infrastructure.

#### Livestock fertility and breeding work

The researchers assume that the age of slaughter is delayed, and getting aged to slaughter them. The carcass cutting yield is decreasing, it's indicating that livestock breeding activities are not enough. In 1990, 29.5% of total livestock were slaughtered. This figure dropped to 20.6% in 2016. It affects the slowdown in livestock production, and increasing livestock numbers. The livestock health and livestock breeding work together included in as regards the "Law on Livestock and Genetic Fund". Thus The importance of livestock breeding has decreased, demand for livestock breeders and livestock technicians decreased, and the capacity of staff is weakening. Also, it reflects lowering the Mongolian herd breeding quality decreased, hybridization has increased, its endurance has decreased, the body is smaller and the structure of the herd is lost. (Enkhtur.TS, 2017, p. 29) In 1989, one veterinarian responds for 20.3 thousand heads of livestock, and in 2017, this figure increased by 3.3 times as 67.7 thousand livestock.

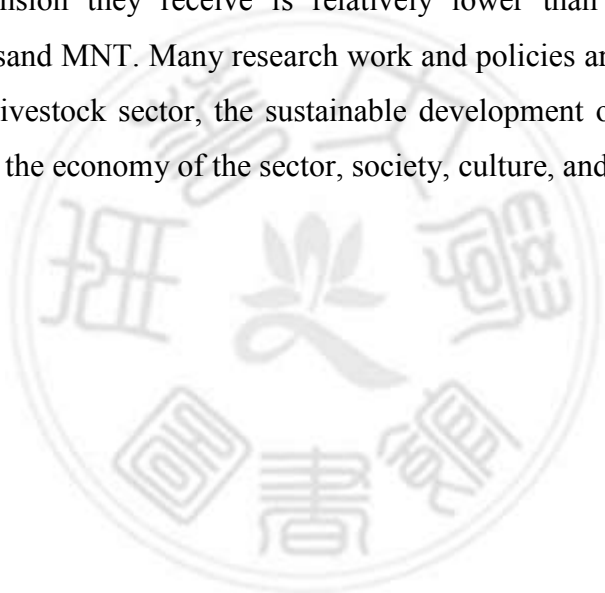
Adapted to the climate of Mongolia, the breeding work of high-yielding livestock which is highly productive in meat, milk, hair, and wool, is not organized. Herders are negotiating with each other to breeding their livestock in this issue. Livestock fertility and breeding work in rural areas are inefficient due to many reasons such as animal breeding work are not done according to schedule, no chance of raising the nucleus breed herd and making artificial insemination. Livestock products are sold on a fixed price regardless of their quality characteristics (such as meat quality, fat ratio, the diameter of wool, cashmere, length, etc.), this is a major barrier to improving product quality. In other words, there is no different price structure depending on the quality. So herders are less interested in producing high-quality products, raising livestock for good quality, and carrying breeding activities for this purpose.

#### Herders' health and social issues

Livestock breeding herders' working environment is highly dependent on the harsh atmosphere, hence the average life expectancy of the herders are lower than the average life expectancy in urban dweller. Included gastric, liver and gallbladder diseases are the main diseases that occurred to herders. In 2010, 12.7% of children under age five in urban areas were growth stunted, while in rural areas it was 20.3%. According to the 2008 study, about 40 percent of women with maternal mortality were herders who live in remote areas with insufficient medical care service. (Mendsaihan.C, 2017, pp. 30-32) Because 67 percent of the rural population lives 50 to 80 km from the soum's hospital. As for

2013, 62.5% of urban people had completed secondary education, this figure was 30.9% in rural areas. (Amgaabazar.G, 2009, pp. 30-33).

This shows that the education level of herders in rural areas is lower than the urban population. Although the number of livestock is growing rapidly, a few individuals owned most of the livestock population. For example, in 2016, herder households with less than 200 heads of livestock occupy 43% of the total herder households and their livestock occupy only 12% of the total livestock (Households with livestock excluded). As of 2016, 67.2% of the rural population had livestock, of which 33.4% were poor. In 2015, about 9.7% of total herders have paid social security in 2016, up from 19.3%. The reason for increased herder social security payments in 2016 is due to the legal regulation has been implemented to reduce herder pension age. However, the social security of herders is insufficient compared to who those employed in other sectors. As the social insurance premium is low, the pension they receive is relatively lower than the other pensioners, or approximately 258.2 thousand MNT. Many research work and policies are important for addressing issues in the Mongolian livestock sector, the sustainable development of the livestock sector that promotes a good effect on the economy of the sector, society, culture, and environment.



## **CHAPTER 4: Analysis of Survey Data**

### **4.1. Current Situation of South Gobi Province's Development**

South Gobi province located in the south and has a Mongolian largest territory or 165,000 square km. South Gobi province In the south side bordered with Alshaa and Bayannuur provinces of the Inner Mongolian Autonomous Region of China and in the north side border with Bayankhongor, Uvurkhangai, Dundgovi and Dornogobi provinces of Mongolia. The province center Dalanzadgad is 570 km from the capital Ulaanbaatar. There are 15 soums and 59 baghs for administrative units. 3923 public servants are employed by 149 state agencies. The south gobi has an extreme continental climate and in the winter minus, 20-30 degrees and the in summer reaches 30-38 degrees.

South Gobi have so many beautiful places such as Galba, Borzon, Zeemeg, Zag Suuj gobies of the 33 famous Gobi Deserts in Mongolia, paleontological finds such as ancient dinosaurs' fossil bones, fossil eggs, and petrified rocks that lived 50-120 million years ago were discovered in Flaming Cliff. There are many beautiful natural landscapes such as Nemegt, Khanbogd tsav, Shariin chute, Baguil tsav are regarded as the world's rare places. South Gobi province has various sights to offer including Khongoryn Els sand dunes, Gobi Gurvansaikhan National Park is rich in wild animals, various herbs. Yol and Mukharshivert valley's beautiful landscapes for attracting foreign and domestic visitors. In addition, world-renowned energy hub, the Demchoo monastery built by Noyon Hutagt Danzanravjaa, vast steppe, gobi, khangai /ecological region/ combined many other beautiful natural landscapes located in here.

As for 2019, South Gobi Province has a 68,114 population, 2.6 million livestock and 5951 herder households. At the end of 2018, 152 thousand camels were counted and two-humped camels leading in Mongolia and the world. South Gobi province has more than 80 mineral deposits and over 200 occurrences. Specially Tavan Tolgoi, Oyu Tolgoi, and Nariinsukhait have been identified for three major strategic deposits. As a result, 14 companies, including Oyutolgoi, Tavan Tolgoi, Erdenes Tavan Tolgoi, Energy Resource, Terra Energy and Javkhlant Mining are mining operations. South Gobi province constitutes the vast majority of Mongolia's coal exports. In 2018, 36.6 million tons of coal was exported, while South Gobi province exported 33.4 million tons or 90 percent. The main economic sectors are mining, animal husbandry, and tourism. For many years the main economic sector has been a livestock sector, but mining and tourism have been developing in recent years.

Since 2006, the province has fully funded by itself and raised its local budget revenue by MNT 163.7 billion in 2018, raising budget revenues by 49.2 billion MNT from 2016 and self-financing capacity is 229percent in 2018. The highest revenue from the provincial capital after the capital city in 2018 by revenue from the excess revenue from local budget revenues. In 2018, 66.1 billion MNT

was raised to the state budget, which is four times higher than in 2016 and 2.2 times more than in 2017. GDP in South Gobi province increased to MNT 597.4 billion in 2018 and GDP per capita reached MNT 8.8 million and GDP production in recent years has been increasing. This is largely dependent on the mining sector.

#### **4.2. South Gobi Province's Livestock Sector and Current Situation of Herders Employment**

Mongolia annually conducts censuses in the livestock sector and Lastly, the census was conducted in December 2018. By the end of 2018, in the province-level the total number of households with 7496 head of livestock, which 5951 herder households run livestock production. Around 34.1 percent of the total household have livestock in the province. 593 herders work in the livestock sector. The 44.8 percent or 4269 of the total herders are women (Byмбаабаатар.С, 2018, pp. 33-36).

Table 4. 1.Number of households and herders age structure

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Household with livestock</b>	7638	6894	6661	6619	6713	6771	6963	7172	7418	7496
<b>Herder household</b>	6301	5628	5431	5131	5173	5216	5417	5647	5819	5951
<b>Number of Herder</b>	11612	10258	9751	9279	9226	9449	9588	9846	9635	9593
<b>Age between 16 to 34</b>	<b>5614</b>	<b>4640</b>	<b>4154</b>	<b>3695</b>	<b>3534</b>	<b>3493</b>	<b>3473</b>	<b>3408</b>	<b>3084</b>	<b>3012</b>
<b>Age composition</b>	100	100	100	100	100	100	100	100	100	100
<b>Age between 16 to 34 by percent</b>	<b>48.3</b>	<b>45.2</b>	<b>42.6</b>	<b>39.8</b>	<b>38.3</b>	<b>37</b>	<b>36.2</b>	<b>34.6</b>	<b>32.01</b>	<b>31.4</b>

Source: The number of herders and age structure The end of the year-end livestock census of 2009-2018

From the chart, the number of herding households increased by 2.3% or 132 households, but the number of herders decreased by 0.4% or 42 by the previous year. The number of herding households has increased, but the number of herders has decreased. It shows us that the number of members who capable be engaged in livestock breeding is decreased in the household. 31.4 percent of the total number of herding households are young people aged 16-34, 53.7 percent are from 35 to 59, while the remaining 14.9 percent are retired, elderly people. Compared to the number of herders

in the previous year, the number of herders decreased by 72 in the age groups 16-34, while those aged 35-59 increased by 72. It is evident that young people aged 16-34 are not interested in herding and are away from herding.

Figure 4. 1. Herding culture indicators

Source: (Mendsaihan.C, 2017)

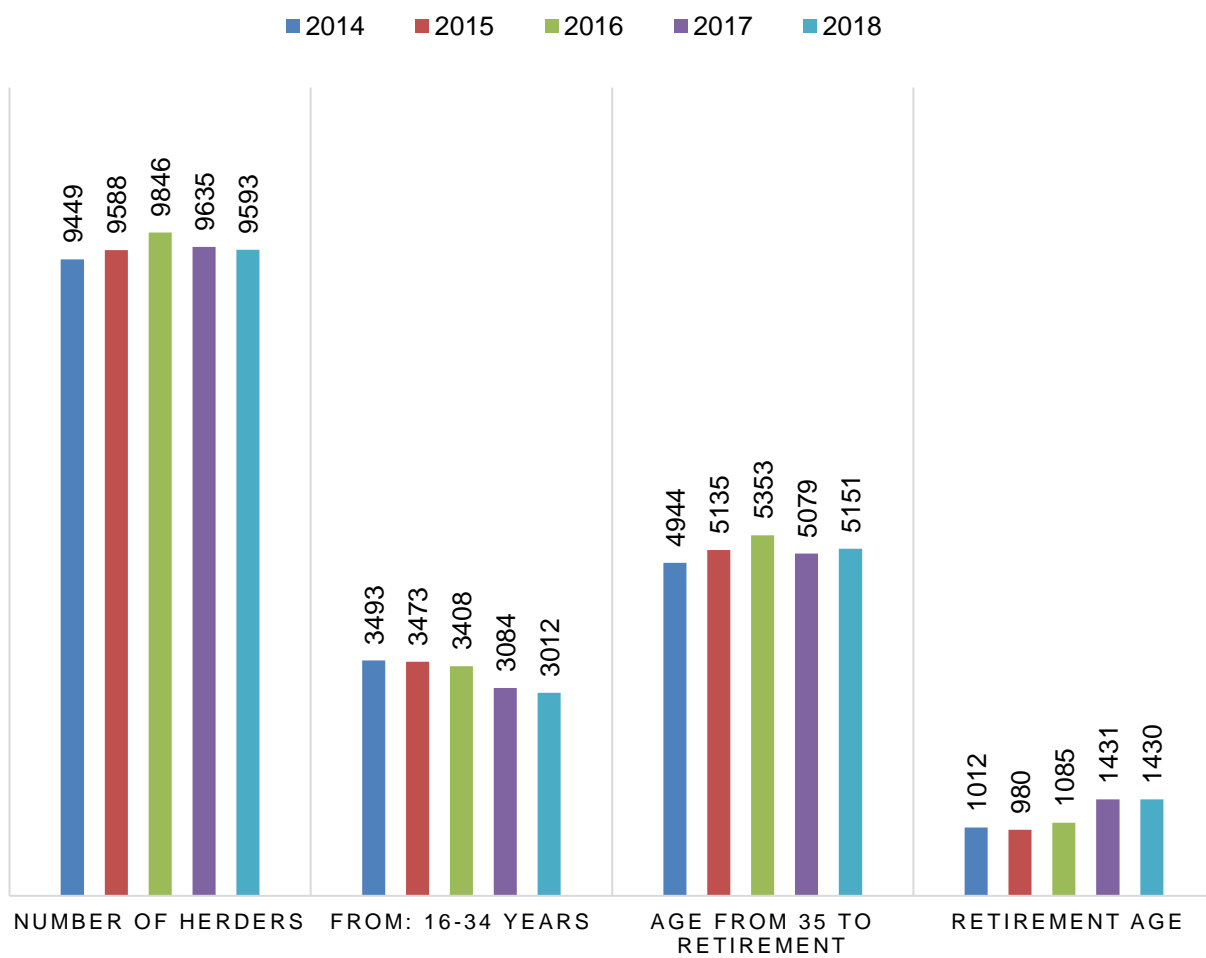
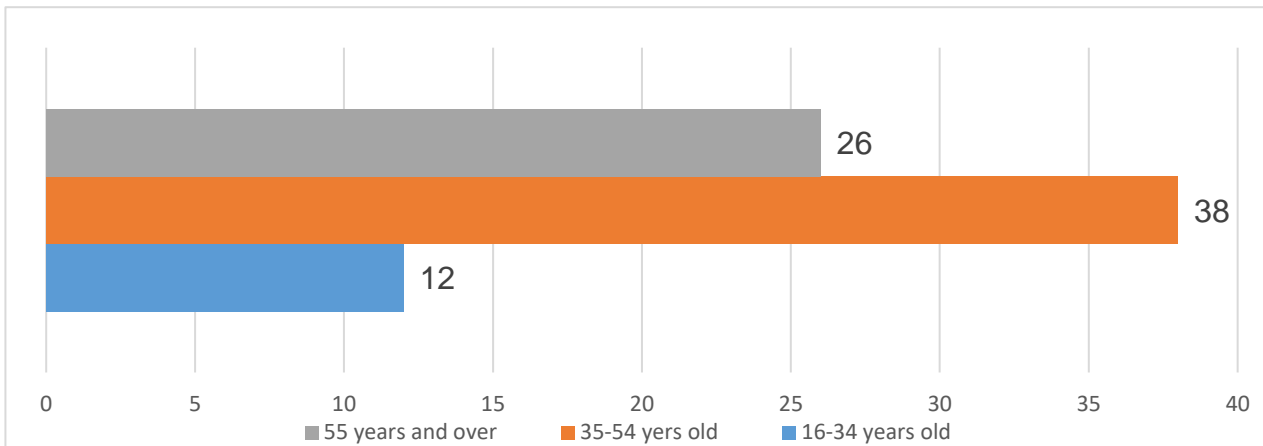


Figure 4. 2 The number of Herder and age structure



Source: (Mendsaihan.C, 2017)

Source: (Mendsaihan.C, 2017)

### 4.3. The Survey Taken from Herders

The interviews were conducted with 76 herders from soums to participate in herder's consultations at the South Gobi province center to investigate the reason for decreasing the Youth's interest in livestock husbandry. 76 herders who participated in the survey were interviewed. By age groups.

16-34 ages -12

35-54 ages - 38

55 years and older-aged – 26

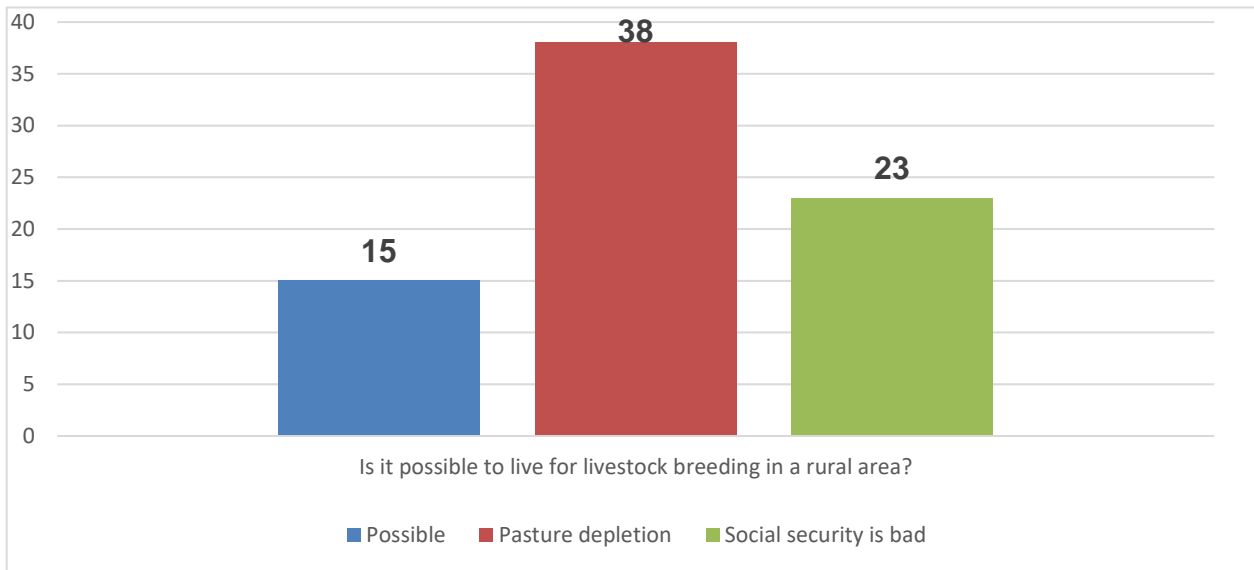
Herders were answered for the following questionnaire:

**Question 1** - Is it possible to live for livestock breeding in a rural area?

– Yes, it is possible - 15



Figure 4. 3. No, opportunities are getting deteriorate



Source: (Mendsaihan.C, 2017)

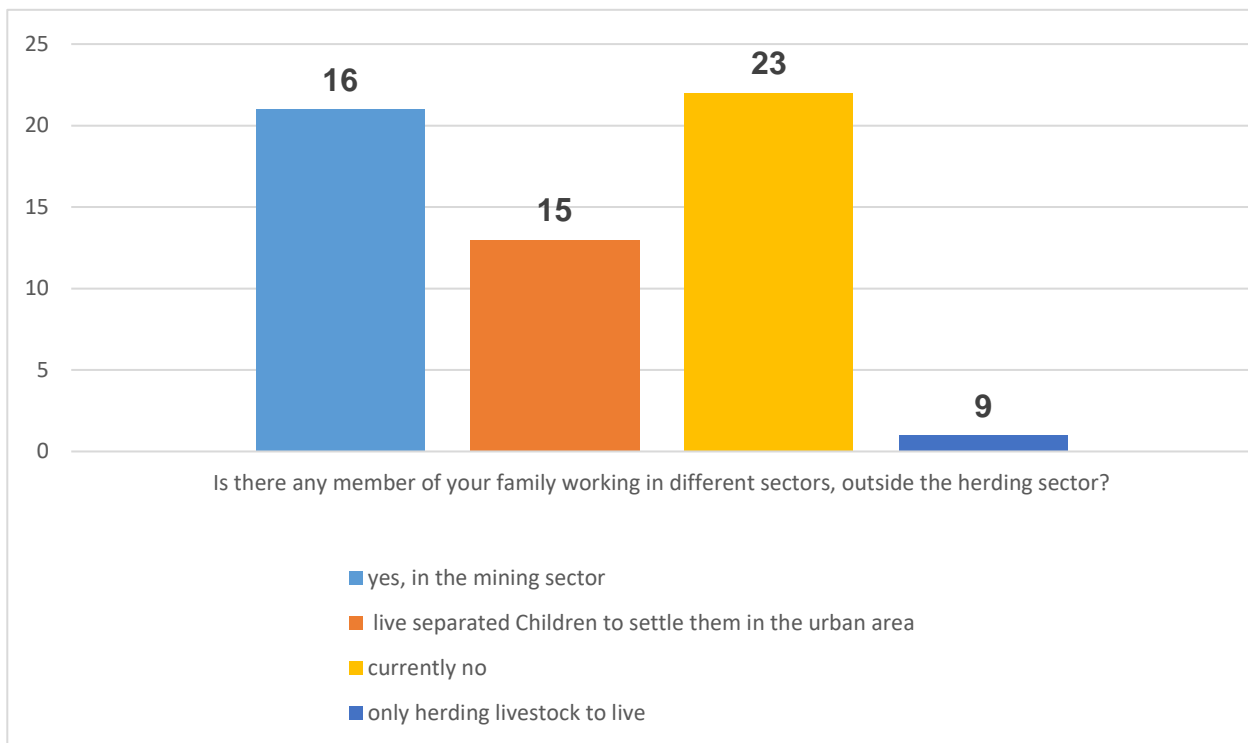
**Question 2:** Is there any member of your family working in different sectors, outside the herding sector?

Yes, currently working in the mining sector - 21 herders

live separated Children to settle them in the urban area - 13 herder

currently no, hereafter interested to work in high paying jobs in the mining sector - 22 herders

Figure 4. 4 only herding livestock to live - 20 herder



Source; (Mendsaihan.C, 2017)

**Question 3:** In recent years, the number of young herders is decreasing. What is the reason of this decreasing in your opinion?

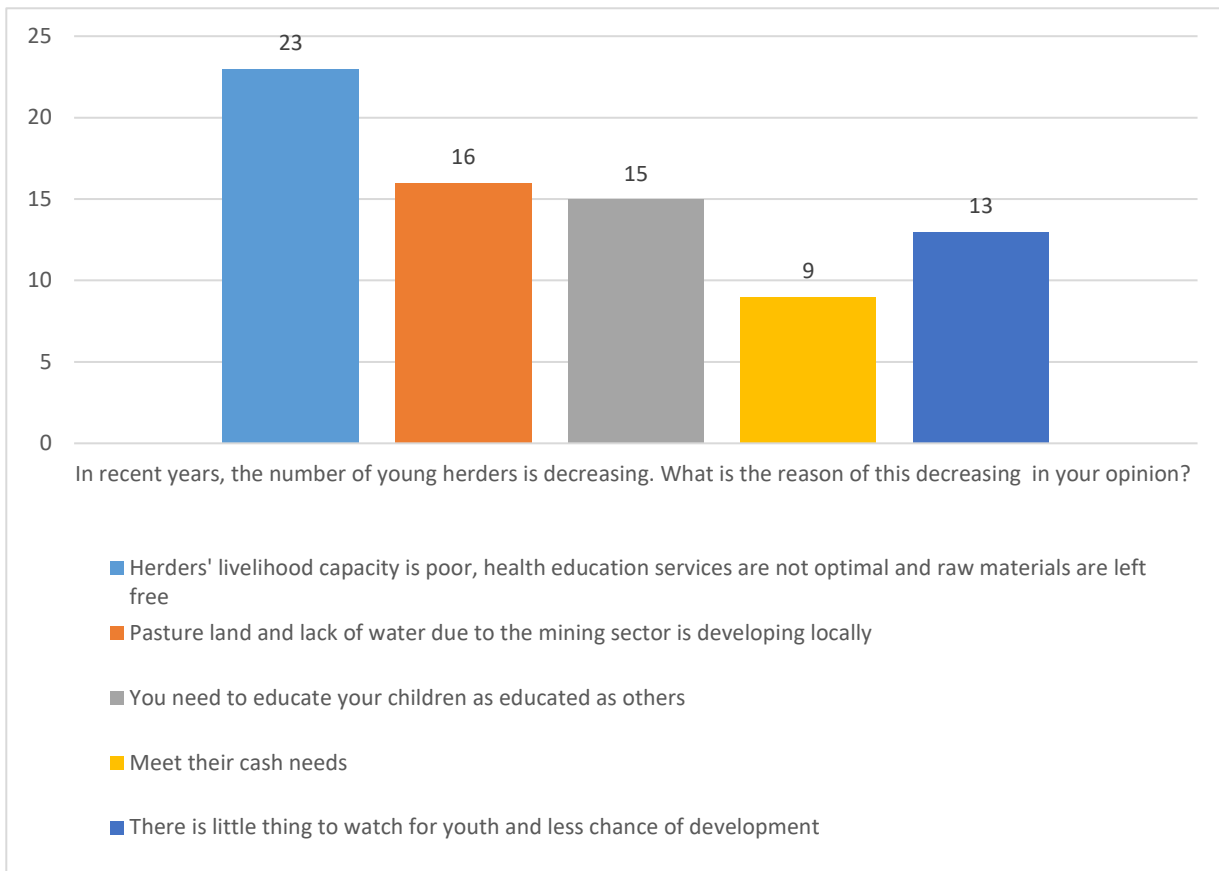
Herders' livelihood capacity is poor, health education services are not optimal and raw materials are left free - 23 herders

Pastureland and lack of water due to the mining sector is developing locally - 16 herders

You need to educate your children as educated as others - 15 herders

Meet their cash needs - 9 herders

Figure 4. 5 In recent years, the number of young herders is decreasing.



Source: (Mendsaihan.C, 2017)

**Question 4:** What is the biggest problem for herders?

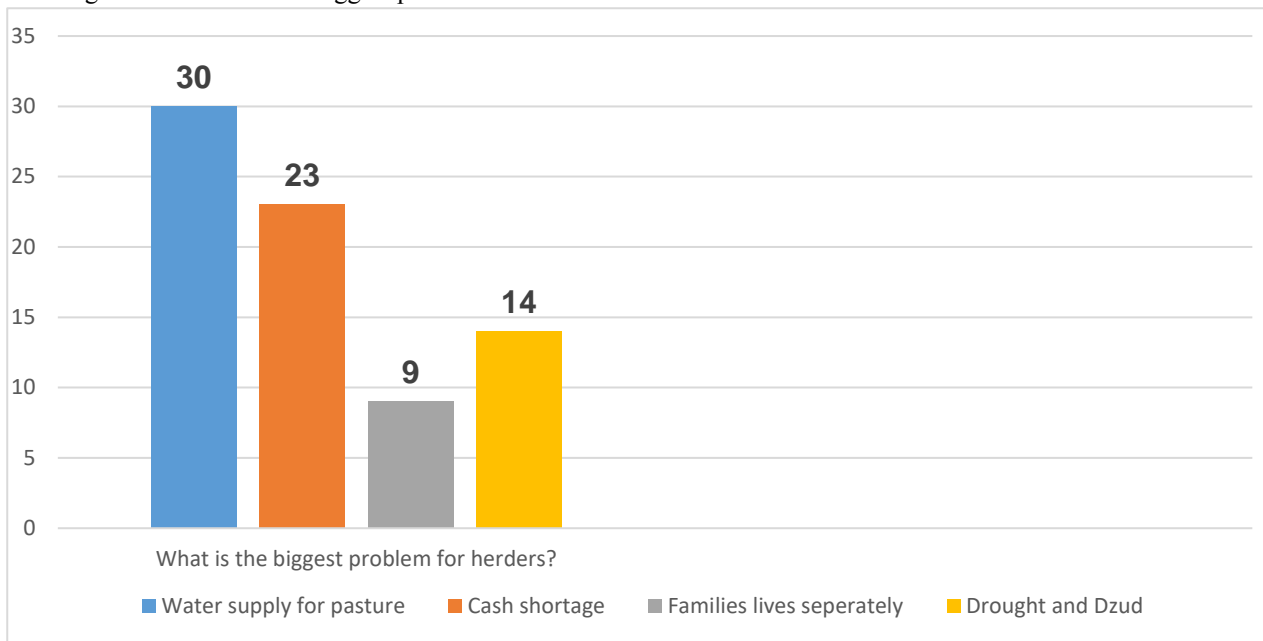
From mining sector activities and pasture is overgrazing because Herders are increasingly raising their livestock without any policy, also depending on the mining industry, water issues are severe - 30 herders

Herders are always had cash shortage and livestock prices do not increase - 23 herders

The biggest problem is that the herding families have been divided into two since the children start schooling at age 6, so some of them live in the urban area - 9 herders

Unpleasant weather occurs many times - 14 herders

Figure 4. 6 What is the biggest problem for herders?



Source: (Mendsaihan.S, 2016)

In summary, the survey concluded that in South Gobi province over the past few years, pastoral land degradation has been linked to the activation of the mining sector following the 3 strategic deposits, as well as the herders are increasingly focusing on raising livestock rather than the quality of livestock to increase their livelihoods. So it causes the pasture depreddation. It is also due to the increasing frequency of droughts and dzud, resulting in the deterioration of pasture yields.

Also, the survey findings show that working-age herders more interest in working mining sector than the livestock sector due to the high demand for labor in the mining sector. It is related to the raw materials price dropped and herder households' income is seasonal thus the herders are a desire to work a high-wage job to increase income. On the other hand, the government does not have any specific policy on the intensification of livestock breeding, as the herders' livelihoods are unsuitable in the mining area. besides the mining sector does not receive livestock products from local herders. So the livelihoods of herders are unlikely to improve.

Another thing to note is that the mining sector in South Gobi province uses groundwater without restoration, resulting in a lack of water for herders to supply water for their livestock. According to a study conducted by the Food and Agriculture Organization of South Gobi province in 2018, over 120 water wells have been dried up over the past 5 years. This survey corresponds with the herders' responses.

Herders mention that herder families are divided into 2 households, some in the soum center and some in the rural to need to look after their underage children. it is related to the educational institution that has been teaching children since school age 6. This has to lead many negative factors, such as

divorce, the herders who left in rural areas are hasn't enough power to herd their livestock. In other words, people living in urban areas begin to educate their children at age 6 is good work that corresponds to the global development trend. However, this issue is the most inappropriate solution to the herders' lives in rural who preserving the nomadic culture. Due to this difficult situation, herders especially young people are less likely to be interested in herding.



## CHAPTER 5: CONCLUSION

For centuries pastoralism preserves ecological balance which is the main source of Mongolians living. The secret is herders have four seasons pastures, switching every season. When droughts and dzuds occur, the reserve area was relatively sufficient. The agricultural sector, including the livestock sector, plays an important role in the economy of a country.

The basis of the population is the foundation of life which are food production, recruitment of labor, quantities of products for non-production of a variety of consumer goods depends on the development of this sector and therefore this is the importance of agriculture. There are 340,000 thousand people work in the Mongolian agricultural sector, of which 90% are herders. Also, the livestock sector is an important contribution to providing employment rural population. Even in rural areas, the number of animals increased, but the herders' lives are not improving. It is the reason for the herders tend to lose their succession. Herder household is the main resource of the labor force in livestock breeding. Over the last 3 years, 303.6 thousand herders have been employed as permanent workers in the livestock industry. In the last 30 years, the number of herders and their age structure has changed a lot. In 1990, 55.7 percent of all herders were 15-34 age, as for 2018, 15-34 aged decreased to 33.3 percent. If this trend continues, ten-fifteen years later, current middle-aged herders move to the elderly, and the number of young herders will be reduced significantly.

The Government of Mongolia already defined general policy direction on livestock breeding and herders. However, the economic feasibility of these policies, interdependence, financial guarantee implementation, positive and negative impact assessment policies, analysis and management are inadequate. In other words, the market price of most livestock products is not stable, fluctuating, and the commodity prices tend to decrease because of the depreciation of the money, harm on the livelihoods of herders. Therefore, to support the demand for livestock products especially has a policy in promoting exports to stabilize prices. Seen as the demand for labor in the industry possible to increase if they make the condition to opportunities for herders to increase their income.

Professor G. Sambuu mentions in the presentation "The Traditional Livestock Science and Challenges", explains in three examples of how pastoralism changed in the last 100 years as time development, government policy, the livestock in the form of property. In the years of the People's Revolution, livestock, milk, oil, wool, leather, and skins were officially treated. From the 1960s to the 1990s was a period of prosperity. There were advances in the herders' understanding of the advantages of collective labor and numerous breeds and artificial insemination. By 1990-2018, the livestock privatizes to herders and it had grown into private farms as livestock numbers increased by three times, reaching over 60 million livestock and became fully engaged in market-based relations.

The traditional way of life of livestock is inherited from our ancestors to children and young herders as well as more improved. In some ways, this traditional loses due to social development.

Dr.G. Gurbazar mentioned the need and direction of training for herders "experienced elder herders exist just over 10 percent. Young herders lack experience because their method was not systematically inherited by the younger generation. Thus, we need to pay attention to government policy level on livestock and herders, increase productivity, and knowledge-based skills should be established. Combines the life skills of a well-experienced herder with vocational education and training to train young herders, needs to define training content and methodology ". Scientists and researchers are beginning to pay attention to the herders' next generations towards the past two years.

In South Gobi province, the number of herders is decreasing year by year, and as for 2018, the number of herders decreased by 36.4 percent from 2000 and 0.4 percent from 2017. (Ganhuyg.N, 2018, pp. 43-45) The decrease in the number of herders it indicates that the number of members engaged in livestock breeding in the household is declining. 31.4 percent of the total herding households are young people 16-34 aged, 53.7 percent are from 35 to 59 aged, while the remaining 14.9 percent are retired, elderly people. The number of herders aged 16-34 decreased due to age-group estimation. As a result, the number of young herders decreased year by year, only 31.3 percent of the total number of herders are young herders at the province-level thus it is one of the issues. Animal husbandry develops based on interactions between private property named livestock and state property named pasture or land. This problem can be solved by how the government manages to pastureland management. Traditional thinking is a major obstacle to the proper management of pastoral land usage. According to researcher A.Enkh-Amgalan, "... raising livestock without considering pasture carrying capacity is a cruel and blind policy that didn't think about people and development".

I assume as for a writer of this research work and the result of this survey show the number of young herders decreases year by year for several reasons. These include:

Looking at the policy of the Mongolian government in the agricultural sector mainly attention to materialistic factors such as livestock, animal breed, health, pastureland, and fodder but had little concern for the herders who are the main driving force of the sector. The livestock sector has a history of thousands of years, the main economic entity of Mongolia. over the past 30 years, no research has been done on livestock sectors' personnel and there are no substantial activities of government policy.

Mongolia has vast territory particular the South Gobi province, it is not appropriate to the style of living in single-family and conduct pastoral animal husbandry. On the other hand, mining is taking place in the most favorable areas of pastoral land, and the herders' fertile pastures are decreasing and

they should migrating to remote areas. In Mongolia, the bag/village/ is the closest administrative unit to the herder. However, health and educational services are not in the unit. It takes about 10 to 20 kilometers to get health and education services, which makes it hard for young people to live in the countryside.

The Mongolian education system is begin trained for children from 6 years old, and herder households are being trained to leave their 6-year-olds in dormitories at the soum or province centers, making it one of the most difficult issues for young families. Or some of the family members are settled in province centers to educating their children, and most men are left behind living in rural areas to herding livestock, which is a problem for young people.

During the socialist period, herders were trained through vocational education schools, but over the past 30 years, the work has been disrupted. For example, before 1990, all young herders were trained in all vocational training centers. As of 2018, in nine professional vocational education institutions, 157 in intensive animal husbandry farming were 57 in veterinarians, 38 in livestock care and a total of 252 people study in the relevant profession to the livestock sector. It shows us the traditional livestock industry, which is the main economic sector in Mongolia is missing behind. (Ganhuyg.N, 2018, p. 45)

The pasture land is shrinking due to the expansion of the mining industry. Pasture lands are overgrazed because of the herders are over-breed their livestock without seeing their benefits. Also, harsh weather conditions which are drought and dzud occur frequently in a rural area. As a result of the above situations, young people are less likely to herding livestock.

Herders pay attention more to their girls' knowledge and education since 1990 and educate them in universities. This action affects the ratio of male and female herders.

Herders' earned income is not enough for their permanent need for livelihoods. That's why young people interested in having high paying jobs. In this situation young herders getting lesser to herding livestock.

Mongolian herders and livestock will exist or nonexistent in the XXI century, depends on how to decide optimally on this issue. Research organizations give attention to this issue seriously.

### **5.1. Recommendation**

Although the Government of Mongolia supporting the activities of the livestock sector and implementing many activities to restock herders, ultimately, the number of herders is decreasing, which is not a completely optimal solution. On the other hand, likely, future generations of Mongolians would not have been interested in working in the livestock sector due to the There was too much policy toward livestock over the past two decades and lack of activity in the policy towards



herders. Also, the activities on herder's social issues have only begun in the last 3 years, which is not yet seen as a result of this activity. Perhaps it is important to focus on creating a favorable condition for people to live in the area through a comprehensive transformation of the livestock sector and through the development of intensive farming.

As a result of this research, as seen as it is important to focus on improving the livelihood of herders and increasing the number of herders. Improving the quality of the herders life.

Considering the adaptability of changing climatic conditions, Developing pastoral animal husbandry practices based on modern scientific and technological advances, develop the policy on promoting intensive livestock breeding in semi-urbanized farms in the mining region at the state and province levels.

Access to new market channels by promoting the relative advantage and value of ecological pastoral products to the international market. In particular, to supply Mongolian pastoral animal meat, meat products on China and the Middle Asian countries' big market thus use the vast advantage of Gobi-specific high-quality meat products to put livestock and meat into economic circulation.

On the soum to build a comprehensive service mediation center with warehouse and adequate infrastructure based on herders cooperatives or private sector. This center responsible for receive livestock products from each soum, sorting, initial processing, packaging, preparing for the next stage and provide price information.

Establishing herders self-governing organizations that provided specific conditions and implement sustainable use of pastureland for the long term, protection and improvement in the economic and legal environment immediately.

Define and implement grazing taxes and payment zones that support intensive livestock breeding, depending on the market distances and forms of entrepreneurship in livestock husbandry.

Reduce the risk of loss by establishing a livestock risk fund and organizing animal and meat purchases from drought occurred places.

Introduce an index-based livestock insurance system to reduce natural risks impacts on livestock breeding.

Improving the socio-culture of herders.

Developing savings, flexible and long-term targeted loan programs for herders and implementing sustainable in the long-term.

Intensifying enhance the training of young herders in the vocational training center and provide incentives for livelihood support to young herders who are becoming new herders.

Improve access to health care services for herder family members to take from their bagh, upgrade bagh health centers and improve the supply of medicines.

The children of herders begin to schooling age 7 and Improve the availability of dormitories that provide them with comfortable living.

Provide preschool education for children aged 2-6 years to expand and regulate the activities of yurt kindergartens

The main content of the policy and program implementation on herders will direct to support herder' livelihoods and increase the number of young herders.

It is assumed that it will become a basic condition for increasing the availability of human resources in the livestock sector, which is the main economic sector of Mongolia by taking multilateral actions on the livestock sector.



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