
WAYS OF DEVELOPING THE LIVESTOCK SECTOR, TAKING INTO ACCOUNT THE FODDER BASE AND INFRASTRUCTURE SERVICES¹

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Abstract

Keywords:

Servicing, infrastructure, economics efficiency, animal husbandry, zooveterinary, product quality, cost.

The article highlights the ways of increasing livestock productivity, improving product quality and reducing costs, improving livestock breeding, improving pedigree performance, developing veterinary services taking into account the fodder base and service infrastructure.

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INTRODUCTION

Many approaches are being carried out to research the volume of livestock production and changes in it, taking into account the activities of the fodder base and service infrastructure. It is estimated that today the world's agriculture employs more than 1 billion people from the economically active population, as well as about 5% of the world's gross domestic product. According to the data, "by 2050, the world's population could reach 9.1 billion people. At the same time, the world's demand for meat and dairy products is expected to increase 2.5-3.0 times compared to today" [1]. This, in turn, will increase the demand for the production of livestock products.

In the development of the livestock sector, it is important to improve the breed of cattle on farms, the formation of breeding groups taking into account the conditions of each region, strengthening the fodder base, as well as the development of livestock services.

The demand for fodder in our country is more than 160 million tons, in 2020 only about 75 million tons of fodder was produced and 46% of the demand was met by domestic resources. In addition, one of the most pressing problems in the livestock sector in our country is the fodder base and infrastructure services. Therefore, it is important to develop a new approach to the maintenance of the livestock sector, including strengthening the fodder base of livestock, expanding the area under forage crops, organizing their breeding, improving veterinary services. The main task is to rationally implement the above-mentioned measures to ensure the efficiency of the infrastructure of the livestock sector. Therefore, it is important to study and address the problems of the livestock sector in the process of organizing the activities of the fodder base and

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service infrastructure to ensure the cultivation of livestock products following the established medical standards for human consumption in our country.

In this regard, the need to develop the infrastructure that serves the livestock sector is growing day by day. This reflects the urgency of finding a scientific solution to these problems, the need to develop scientifically based proposals and recommendations for the development of the fodder base and service infrastructure for the livestock sector.

LITERATURE REVIEW

In the research of some economists, including N.S.Bazarov, inefficiency, along with general shortcomings, is attributed to the lack of agro-service infrastructure. In particular, “the quality of veterinary services and breeding work lags behind demand, the reduction of arable land, which is the basis of the fodder base in the livestock sector, the lack of attention to improving economic relations between livestock and processing enterprises at market level” [4].

Sh. Sh.Fayziyeva noted that one of the factors negatively affecting the development of farms is the lack of existing infrastructure and the lack of available opportunities [5]. In his research, A.Kh.Khakimov studied the peculiarities of the formation of the market of livestock products in the country as a result of economic reforms in agriculture in Uzbekistan. In the process, a number of proposals have been developed to improve the market forms and opportunities for the organization of livestock production. Another noteworthy aspect is that the scientist also paid special attention to the economic problems of strengthening the fodder base in animal husbandry, the improvement of processing and sales systems of the industry. In particular, he explained that “the increase in the economic efficiency of livestock depends on many factors”, “the most important of which is the cost of feed” [6].

In his research, T.S.Mallaboyev systematizes the intensity indicators in cattle breeding. He analyzed these indicators into three parts: factorial, performance, and economic, and studied them in terms of quantity and value [7]. However, the study did not focus on the economic relationship between service enterprises and various forms of ownership. The study examines the services provided by each service provider, taking into account its economic performance, based on the conditions of a market economy. In the analysis of the impact of cows on milk yield and their intensity efficiency in dairy complexes, the analysis of production costs by substance is not provided.

However, the work of the above authors has been done in different periods, in general, and has not been approached in-depth, choosing the infrastructure system as a separate problem. At the same time, the work on the organization of the fodder base in the livestock sector, taking into account the activities of the service infrastructure, also requires a serious approach to scientific research.

RESEARCH METHODOLOGY

Substantiating the main features of increasing the efficiency of the livestock sector, taking into account the activities of the fodder base and service infrastructure, is explained by identifying ways to increase the cost-effectiveness of the fodder base.

Systematic analysis, comparative analysis, tables, and graphs were used in the analysis of the efficiency of the Kashkadarya region's livestock sector, taking into account the activities of the fodder base and service infrastructure, and the development of proposals and recommendations is one of the current issues.

ANALYSIS AND RESULTS

In an innovative economy, the level of development of the livestock sector is determined by a number of economic indicators. Achieving high levels of network development is due to a number of factors, the lack of the most important of which hinders the expected positive results. In particular, one of the generally recognized important factors in the development of animal husbandry is the strengthening of the feed base of this sector.

However, it should be noted that the issues of increasing livestock productivity, improving product quality and reducing costs are inextricably linked with the improvement of livestock breeding, improvement of pedigree indicators, the level of development of veterinary services. After all, the full use of the biological potential of the animal can be achieved directly by feeding the animal with quality and nutritious fodder. This is because the biological potential of any pedigree animal has been proven by practice to be sufficient only under conditions of adequate nutrition and enrichment with all components.

In addition, our monographic observations on the composition of the daily ration of dairy cattle on farms and dehkan farms show that in most areas the ration of livestock does not correspond to the level of nutrition, the direction of livestock use. That is, regardless of whether the animal is fed dairy or meat, the basis of the diet is often coarse hay (often grain straw). This is one of the main factors leading to a decline in livestock productivity.

In each farm, county, or area, there is a clear area of land on which livestock can be raised, harvested, or grazed. Therefore, it is possible to predict the availability of mixed fodder on each farm almost in advance. This means that the amount of fodder can be prepared in advance for each farmer or farm, and it does not require much knowledge, even within the "dekhkan" farm. It is also possible to forecast these figures on the basis of accurate calculations, either by region or republic. This means that the amount of food grown within a given area (individual "dekhkan" farmer or farming entity, district, province) can be estimated in advance around indicators that are close to real capacity.

At the same time, it is possible to determine how much feed is needed for each animal or species, based on the norms, taking into account the characteristics of the breed (productivity) of livestock. This will determine how many animals need to be raised on each farm. Moreover, raising livestock is not economically viable. Because of the lack of nutrients, the productivity of livestock in milk or meat decreases sharply. That is, the food we eat is wasted. Or the food we consume is only used to maintain the weight of the animals physiologically, not to produce an excess of meat or milk (figure 1).

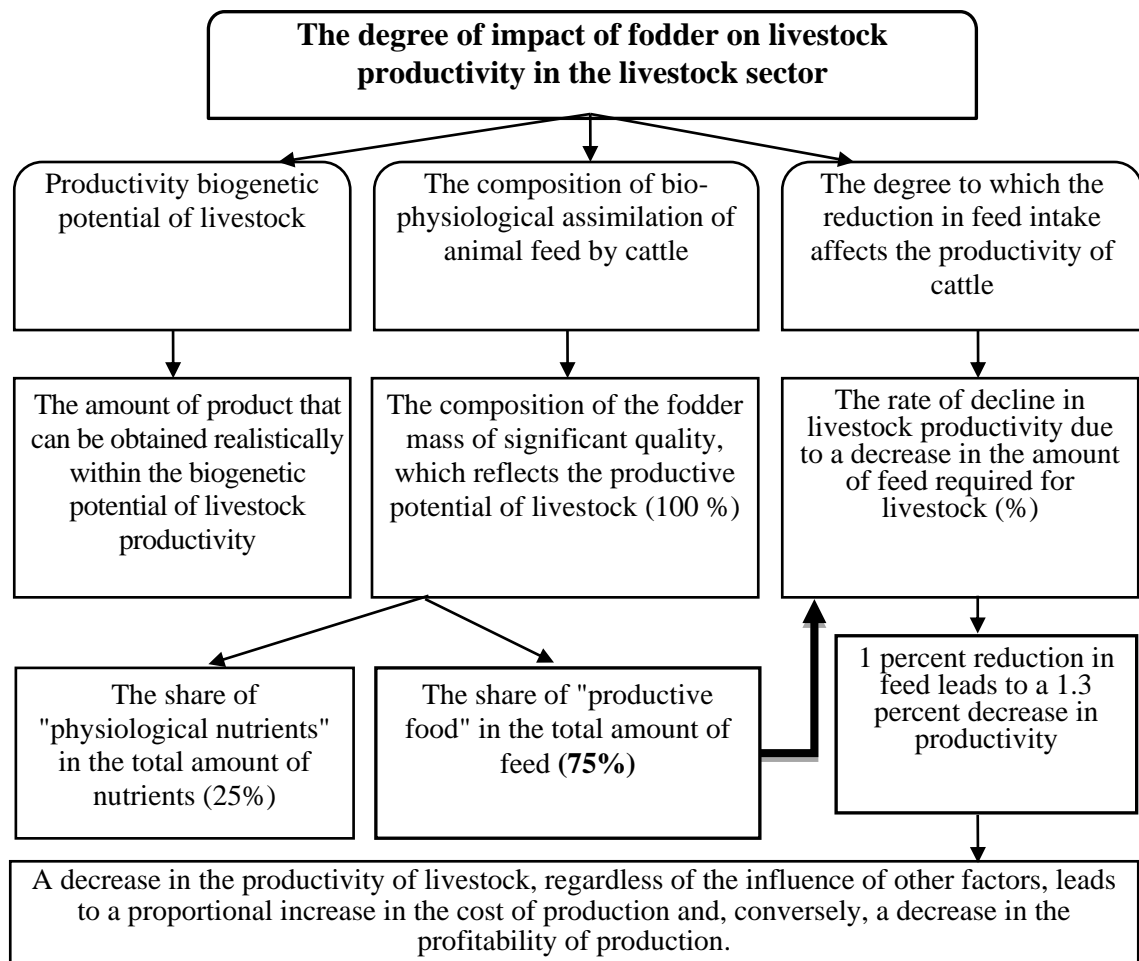


Figure 1. Reduction in the amount of feed in the livestock network and the degree of impact on productivity²

There is another side to the problem, which is that cows do not gain enough weight due to lack of feed, which means that the calving rate will decrease next year. And again, this would mean that you have to spend on these processes.

If you look at how many animals are cared for and how much fodder is stored on most farms in the livestock areas of the country, we can see that 3-4 head of cattle are kept at the expense of one feed. It can be concluded that in most cases when we talk about livestock productivity, we explain the problem by the fact that the level of livestock breeding does not meet the requirements or the area under forage is low.

However, this problem cannot be ignored, as the analysis shows that the share of fodder crops in the share of farmland is sharply declining. In particular, in 1990, the share of fodder crops in the total area of the republic was 23.0%. As of 2015, 134.3 thousand hectares (6.2%) of the total 2139.7 thousand hectares of arable land at the disposal of farmers in the country are planted with fodder crops. Or in 2021, only 9.8% of the country's total arable land will be planted with fodder crops. These figures show that there is a real reason for the decline in the food supply of

² Source: Developed by the author.

the livestock sector.

The low level of food supply is evident in the low productivity of livestock. Increasing the volume of milk production in the country is a topical issue today. However, the increase in milk production should be due to an increase in productivity, not an increase in the number of cattle. If we look at the numbers, at the moment the milk yield of cows in the country remains very low.

In the Republic of Uzbekistan, the milk yield of 2,454 kilograms on farms and 2,167 kilograms on farms in 2021 is very low. Meeting the needs of the population of the country in milk and dairy products is directly related to the development of farmers, which in turn increases the productivity of livestock, the creation of a solid fodder base, the quality of services. Improvement is one of the priorities of the network development.

Problems in the formation of a system for the sale of dairy products grown on farms, difficulties in attracting investment in the processing of dairy products in rural areas, the introduction of waste-free technologies are also obstacles to the development of the livestock sector.

According to our calculations, the share of «Productive Feed» in the total amount of feed in livestock is 75%, and the share of «Physiological Feed» is 25%. This is directly related to the reduction in livestock productivity due to the reduction in the amount of feed required for livestock. In particular, a 1.0% decrease in feed will lead to a 1.3% decrease in livestock productivity. It should be noted that the reduction in nutrient content occurs only at the expense of «productive nutrition» and directly affects productivity. Therefore, it is important to pay special attention to the sustainability and nutritional content of feed rations. (Table 1).

One of the reasons for the low milk productivity in the livestock sector is that the work on strengthening the fodder base of the sector does not meet the requirements. In particular, the area under fodder crops on farms is declining sharply. In particular, in 2021, 6.2% of the total arable land in the country was planted with fodder crops, while in Kashkadarya region this figure was 3.3%.

Table 1
Feed base of dairy cows and its value indicators in the livestock complex of "Karshi Ceramic Pipes LLC" in Nishan district in Kashkadarya province *³

№	Feed	Per month (tons)	Per year (tons)	Feeding unit		Digestible protein		Cost	
				gr.	total, tons	gr.	total, tons	kg/soum*	Total mln soum
1	Maize for silage (grainy)	18,67	224	31	6944	20	4480	1000	224000
2	Medick senage	18,67	224	4	896	90	20160	2700	604800
3	Sediment (small leaves)	2,61	31,36	6600	206976	39	1223,04	3500	109760
4	Maize for grain	9,24	110,88	34	3769,92	78	8648,64	3000	332640

³ **Source:** Calculated by the author on the basis of data from the Department of Statistics of Nishan district of Kashkadarya region.

5	Mixed feed	20,44	245,28	110	26980,8	46	11282,9	2700	662256
6	Barley	5,6	67,2	110	7392	46	3091,2	3700	248640
7	Cottonseed cake	0,93	11,2	96	1075,2	325	3640	3900	43680
8	Soyaseed cake	0,93	11,2	109	1220,8	396	4435,2	1100	12320
9	Green medick	74,67	896	49	43904	110	98560	2000	1792000
10	Hay	11,2	134,4	0,63	84,672	27	3628,8	1200	161280
11	Peremik (vitamin)	1,02	12,2573	x	x	x	x	15500	189988
12	Edible salt	0,34	4,088	x	x	x	x	1000	4088
	Total	x	x	x	299243	x	159150	x	4385452
	-for calf intake (10%), tons				29924,3		15915,0		438545,2
	- for milk (90%), tons				269319,1		143234,8		3946906,9
	1 day spending: for the calf for milk (note: 365 days a year):				82,0		43,6		1201,5
					737,9		392,4		10813,4
	1 CCH (note: a total of 224 heads)				1335,9		710,5		19577,9

* Author's development. ** Feeds and biologically active additives are based on market price. ** mln. soums., CCH- conditional cattle head, head

High productivity cannot be achieved without improving the breed of livestock or strengthening the fodder base. This will require the improvement of livestock breeding, the introduction of artificial insemination of livestock in the hands of the population, the establishment of a system of veterinary and zootechnical services.

Strengthening the fodder base and improving livestock breeding are interrelated and important factors that will ultimately not be economically viable. Only by adhering to these aspects of the development of the industry will the positive changes in the development of the livestock sector begin to be noticeable.

The solution to the above problem requires a balance between the number of livestock, the volume of production and the possibility of growing and purchasing fodder and selling products.

This means that livestock farms (within a district, province or economic zone) need to "plan the number of livestock, taking into account how much fodder is grown." Not vice versa. Typically, livestock farms (dekhkan farmers and farming entities) start looking for fodder for their livestock only after increasing the number of livestock (either by purchasing or leaving it for breeding). Even when sufficient fodder is found, its composition is often overlooked or it is not possible to find other components to optimize its content on a scientific basis. To put it simply, "a farmer feeds his livestock with the food he finds, not with the food he needs scientifically." In case of insufficient fodder for the existing livestock, the farmer keeps 2-3 livestock with enough fodder for one livestock. This, of course, does not guarantee a high level of livestock productivity.

Provide veterinary services to dekhkan farmers and farming entities' livestock, prepare fodder fields for planting, supply water for irrigation, and control everything from insect and pest control to harvesting, service structures of various forms of ownership have been formed and are developing. There are also a variety of service outlets in the supply of mineral fertilizers, fuels, seeds, chemicals, and spare parts to farms.

CONCLUSION

Due to the fact that the planned number of livestock takes into account the existing fodder production capacity and service infrastructure, there will be no major interruptions in the supply of fodder to the livestock sector, which will lead to an increase in the utilization of livestock biogenetic potential.

At the same time, it is necessary to increase the share of soybean and corn grain mixtures in legumes, which serve to enrich the feed with protein:

- one of the important directions in the implementation of best practices and scientific and technical achievements in the livestock sector is to pay attention not only to breeding, artificial insemination, but also to create a system of fodder production that creates real opportunities for the use of feed rations. should remain;
- based on the experience of foreign countries with a highly developed livestock sector, one of the important foundations for the development of animal husbandry in our country is the improvement of the system of mixed fodder production;
- in order to increase the weight of high-nutrient corn grains in animal feed, including compound feeds, it is necessary to expand the area under primary and secondary maize;
- it is expedient to introduce mechanisms of state economic and legal incentives for the activities of markets, specialized outlets selling specialized fodder, raw hay and other types of fodder on the basis of private entrepreneurship in areas with developed livestock;
- improving the composition of arable land on farms, including the development of measures to increase the share of fodder crops to 20-25%, as well as the search for opportunities to place fodder crops as a secondary crop in irrigated areas free of grain required. to achieve this goal, it is necessary to provide additional water, mineral fertilizers, fuel and lubricants to farms;
- it is necessary to strengthen the fodder base of the livestock sector through the systematic placement of fodder crops on farms with chronic low yields of cotton and grain, which at the same time will increase soil fertility;
- there is a growing need for preferential, long-term loans for the purchase of land for farming and forage harvesting equipment, mini-workshops for the preparation of compound feeds on farms and dehkan farms;
- the fact that the system of mixed fodder production in the country is managed by the enterprises of “o’zpaxtasanoat”, “o’zdonmahsulot” and “uzumsanoat” associations, and the small amount does not ensure the availability of mixed fodder to livestock farms at relatively low prices and in sufficient quantities. therefore, the formation of an effective system between farmers and enterprises and suppliers of compound feeds should be under the control of the state;
- it is expedient to develop small-scale private enterprises engaged in the supply of fodder and other resources to livestock farms and dehkan farms located in areas far from markets;
- special attention should be paid to the promotion of practical research and innovative projects on the industrial production of mixed feeds for livestock and macro and micro elements, which are an important part of animal feed in general, and the enrichment of feed from local raw materials in simple ways;

- in order to strengthen the fodder base of the livestock sector, it is necessary to create agro-technical methods of maintenance of fodder crops on the basis of a science-based system and the formation of scientific support for high yields of fodder crops.

The solution of the above-mentioned problems will lead to the way for achieving positive results in the sustainable supply of livestock products to the population of our country.

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