

THE SIGNIFICANCE AND ROLE OF LIVESTOCK BREEDING AS PART OF THE AGRICULTURAL SECTOR IN PELAGONIA REGION

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Abstract

Livestock breeding is one of the most important economic sectors in our country, directly influencing the overall progress of the agricultural sector. Its continuous development significantly impacts economic stability, food supply, rural development, and societal well-being. In the research, the objectives are clearly defined to provide a comprehensive description and classification of the conditions, current status, and possibilities for the development of livestock production. The main goal of the research is to identify the components of the reproduction process in the agricultural and food industry and their influence on macroeconomic movements. Various scientific methods were used in the preparation of the thesis, including analytical, synthetic, inductive, deductive, descriptive, and statistical methods. The most relevant conclusions obtained through the analysis of the results from the "Questionnaire" encompass aspects such as identifying agriculture as a primary source of income for many farmers, particularly in crop farming and livestock husbandry. Additionally, challenges like a lack of workforce, delayed subsidy payments, and issues with water supply for livestock hydration are identified. The significance of a strategy to protect clean water is emphasized as a response to the water scarcity challenge. The future of the agricultural sector depends on factors such as product placement, subsidies, timely payment for finished products, and ensuring the workforce, highlighting them as key aspects for the sector's future development. The research provides significant data contributing to the improvement of the current state in livestock farming, both in the Pelagonian region and in our country.

Keywords: agricultural sector, animal husbandry, Pelagonia region, economic contribution, food supply.

1. Introduction

The development of agriculture is intricately intertwined with the advancement of the entire economy. In regions categorized as underdeveloped or less developed, livestock farming tends to adopt extensive practices, resembling natural, traditional forms of livestock production. Conversely, in developed societies, livestock farming is characterized by modern organizational systems that align closely with the demands of contemporary consumers and the market. Modern livestock farming heavily relies on animal feed sourced directly from fields, pastures, grazing lands, or through alternative means, (Herrero et al., 2012)

The well-being and survival of domestic animals and the plant ecosystem are directly influenced by external environmental conditions, forming a crucial agroecological connection within the complex interplay between domestic animals and their surrounding environment. Livestock production stands out as the most significant sector of agriculture in terms of value and production of animal products necessary for population nutrition. The underdevelopment of the livestock industry in certain regions, compared to European and global standards, can be traced back to historical factors. However, the present and future unequivocally point to the benefits of adopting new techniques and technologies, which have found their place in all agriculturally developed countries, (Pradbre, 2014)

A stable market for agricultural and food products is crucial for meeting the nutritional requirements and affordability of consumers, thereby reducing food costs within family budgets. However, from both a production and economic standpoint, the livestock industry in

our region faces significant challenges. Structurally, the industry comprises numerous small-scale producers with low productivity and inadequate resources for rapid and sustainable growth. This situation is marked by the underutilization of available natural resources, resulting in minimal domestic production and limited export capacity, (Pawlak et al., 2020).

Achieving substantial improvements in the livestock sector necessitates increased intervention from the government and other stakeholders to incentivize farmers to enhance milk and meat production on their farms. By encouraging greater investment and modernization in livestock farming practices, the industry can move towards a more efficient and prosperous future, (FAO,2018).

Modern family-owned livestock farms are relatively scarce, necessitating their development within the market, which hinges upon the creation of favorable conditions to enhance this agricultural sector. The direction and intensity of production in livestock farming can vary significantly. One alternative approach is the adoption of a combined production model, wherein both milk and meat production are emphasized, a common practice among small-scale farms in our country. This approach is prevalent in economically less developed nations and regions characterized by small-scale production units, (Moreno-Pérez et al.,2011).

Implementing agricultural policies that prioritize improved genetic potential, reproductive characteristics, and product quality, alongside the adoption of modern selection methods and zootechnical measures, can lead to significant enhancements in the quality of livestock production, (Hernandez-Patlan et al., 2023)

2. Methods

In order to obtain relevant data, a brief survey was conducted on a representative sample of respondents from the agricultural sector in the Pelagonia Region. The survey primarily targeted livestock farmers and crop growers due to their interdependent work. The objective, or rather, the goal of this research is to demonstrate the importance and role of livestock farming as part of the agricultural sector in the Pelagonia Region. The general scientific methods used in data processing were: Analytical-synthetic method - analysis of specific phenomena, breaking them down into their ultimate basic parts, grouping them according to common characteristics, and based on that, deriving and presenting new specific conclusions; Inductive-deductive method - establishing general conclusions through individual specific opinions and observations, and conversely, arriving at new specific conclusions through general opinions; Descriptive method - a procedure for describing or presenting the subject of scientific research with scientific interpretation and explanation. In the description, a significant portion of scientific and professional literature and specific research from prominent experts from the country and abroad is utilized; Statistical method - the collected data was statistically processed, and analyzed, and based on this, appropriate conclusions were drawn about the phenomenon under investigation. By arranging and organizing the previously collected data according to various criteria, all of this is supported by statistical tables and graphical representations, with the aim of more easily and clearly establishing the relationships of conditionality of this phenomenon.

3. Results

Out of a total of 100 survey participants, 34% are young farmers, 21% are women, and the remaining 45% are individual members of farming families. In this way, we believe that all farmer structures are covered, with the targeted groups including both young people and women as distinct categories of farmers. This is graphically represented in Chart No. 1, the first chart we used to graphically present the results of the conducted survey research.

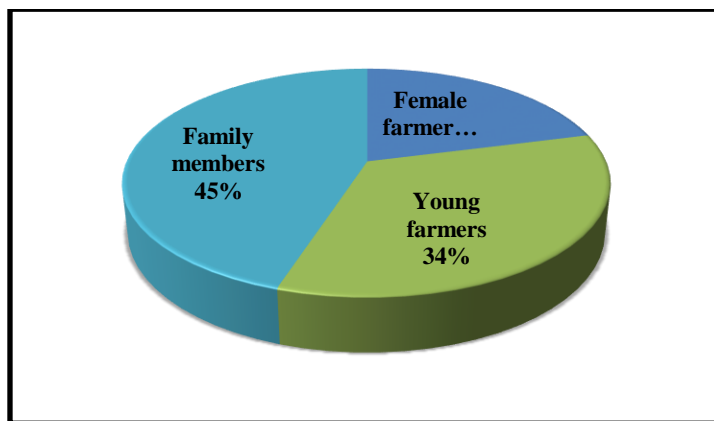


Chart 1. Surveyed farmers

The next survey question pertained to the source of their income, and the results are graphically represented in Chart No. 2. According to the respondents' answers regarding their source of income, with the intention of determining their positioning in relation to agriculture and their dependency on it, which actually determines the importance or weight of their responses, for 68% of the surveyed farmers, agriculture represents the main source of income. For the remaining 32% of respondents, agriculture is an additional activity.

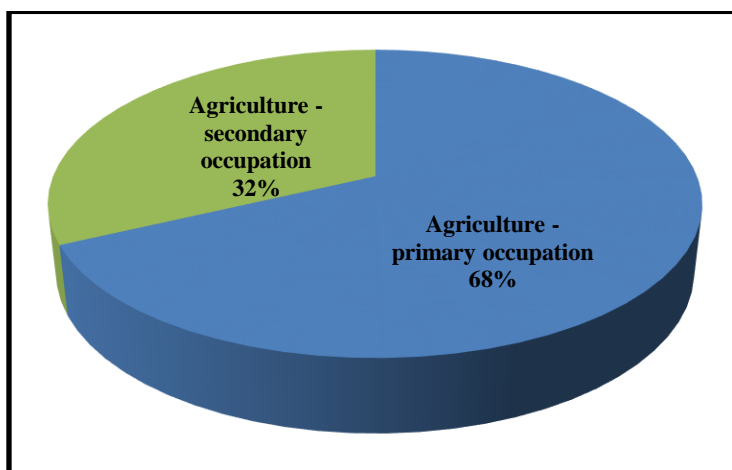


Chart 2: Source of income

As shown in Chart No. 3, the percentage distribution of farmers by sector, according to the respondents who were part of the survey, is as follows: the largest portion, 42% of the total, are engaged in crop farming, 36% in livestock farming, 21% in fruit growing, and 1% in beekeeping. It can be concluded that the highest representation is in crop farming and livestock farming due to their interconnection in the production of animal feed.

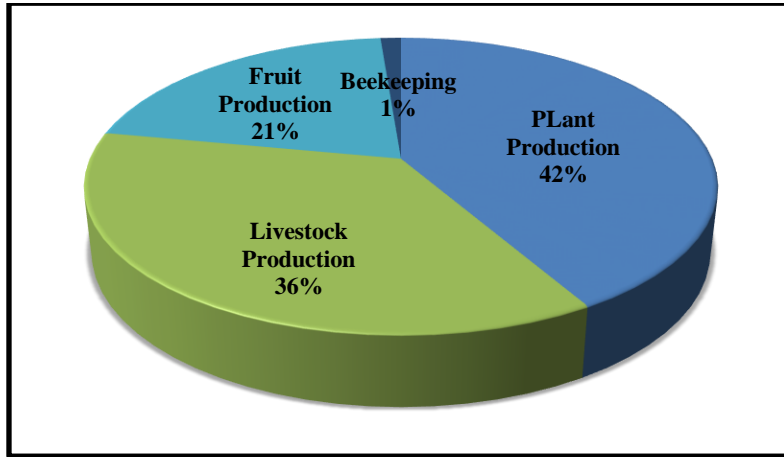


Chart 3: Which agricultural branch do you work at?

Membership in associations among farmers is not regulated by law, but some farmers believe they can benefit from them. As observed from Chart No. 4 shown below, the majority, or nearly two-thirds, i.e., 65% of the surveyed farmers, have been members of an association for more than one year. Almost one-third or 30% have been members for one year, and the smallest portion of the respondents, 5%, believe they do not need to join such an association.

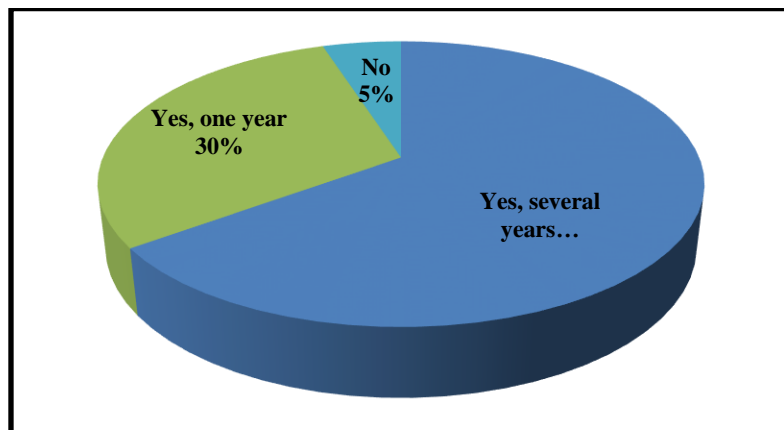


Chart 4: Do you participate in any farmer association?

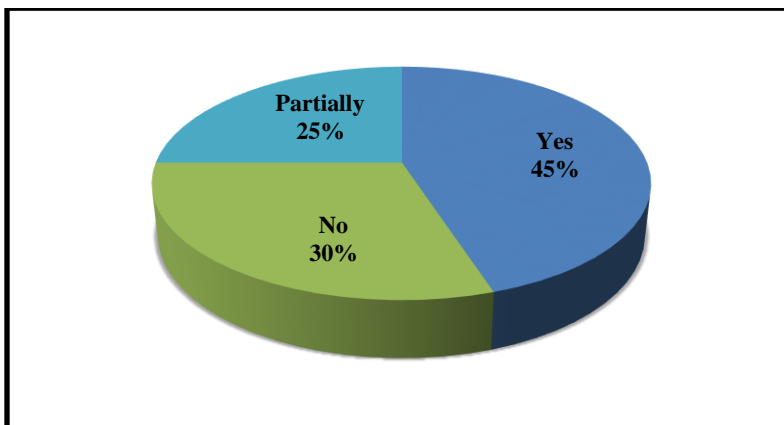


Chart 5: Do you face with labor shortage?

It is an undisputed fact that the primary driving force in agriculture is human labor. We must not neglect modern technology and its impact on this sector, but without being managed and controlled by humans, it cannot function. Hence, there is an essential need for labor, which is

why the next survey question addressed the issue of labor shortage. According to our research, the results are as follows: 45% of the respondents confirmed the issue, 25% stated they partially face this problem, and the remaining 30% indicated they do not face a labor shortage. This is graphically represented in Chart No. 5.

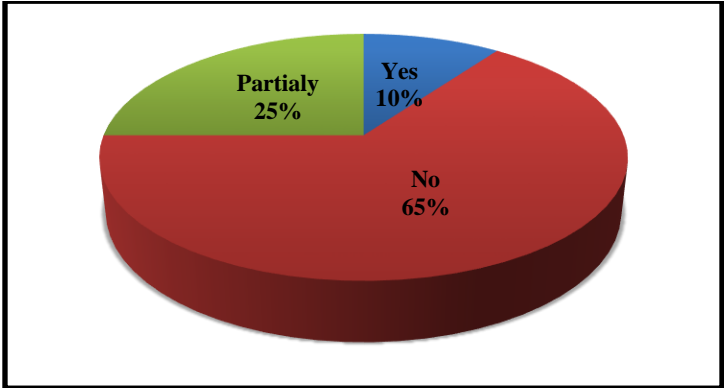
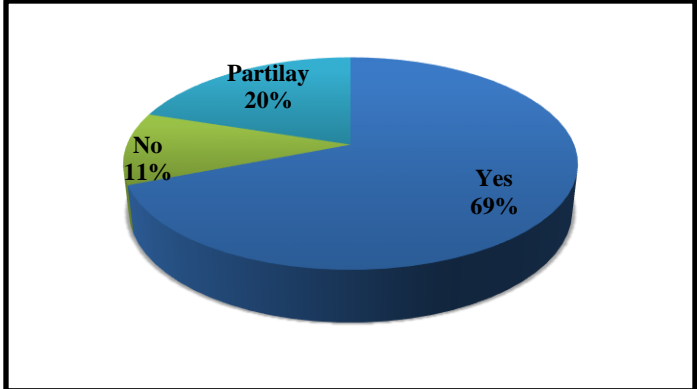


Chart 6. Are you experiencing delays in subsidy payments?

Chart No. 6 contains the results of the surveyed farmers' responses to the question: "Do you face delays in subsidy payments?" As observed, 65% of the total respondents answered negatively, 25% indicated they partially face this issue, and 10% gave a positive response.



Graph 7: Are your products being paid on time?

The next question answered by the surveyed farmers complements the previous one and pertains to the timely payment for their delivered products. The results are graphically represented in Chart No.7 . We can observe that 69% of the total respondents gave a positive response, 11% answered negatively, and the remaining 20% answered partially.

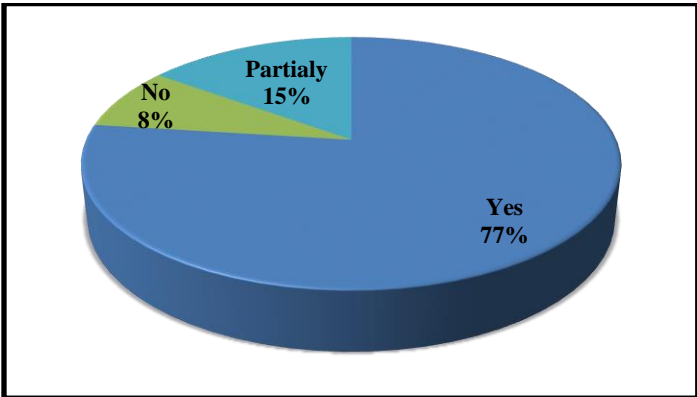


Chart 8: Guarantees for placement and products sales

How much farmers trust the guarantees for the placement and sale of their products provided by the state is graphically represented in Chart No. 8 The majority of them, or 77%, trust the guarantees they receive, 8% do not trust them, and 15% stated that they partially trust them.

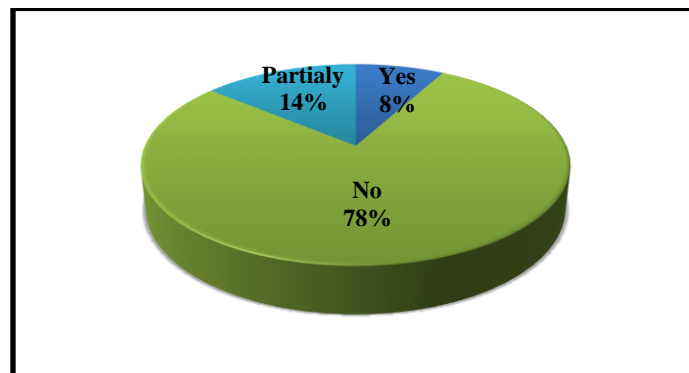


Chart 9. Livestock water supplies and irrigation issues

The next survey question addressed the problems with water for irrigation and livestock that the farmers face. As graphically represented in Chart No.9, 8% of them reported facing this problem, 14% stated they partially have this problem, and 78% indicated they do not have issues with water for irrigation and livestock.

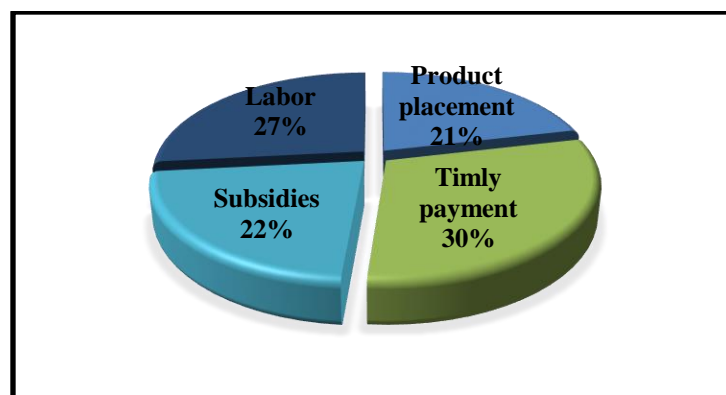


Chart 10. What is your future in this sector conditioned by?

The final survey question, regarding the indicators and their influence on farmers' decision-making and future planning in this sector, revealed nearly identical results as depicted in Chart No. 10. As a condition to continue working in this sector, 21% of respondents cited product placement, while 22% mentioned subsidies. Timely payment for their delivered products was deemed essential by 30% of them. A slightly smaller percentage, 27% of farmers, identified a significant impact on their future in this sector due to the availability of labor.

4. Discussion and Conclusions

The results obtained from the conducted research show that nearly two-thirds of farmers consider agriculture as their primary source of income. This aligns with Norton's research (2004), which highlights agriculture as a crucial sector in rural areas, emphasizing the importance of support and investments in this sector to enhance its potential for development and growth. These studies have a significant impact on the formation of policies and programs supporting farmers and promoting them as an integral part of the economic structure of rural areas. The prevalence of crop farming and animal husbandry is confirmed by Martellozzo et al. (2018), who identifies them as essential components in food production.

Farmers' membership in associations is significant, as highlighted by Lutz & Grima's research (2017), which underscores the crucial role of farmer unity in shaping policy. These associations have a substantial impact on policy-making and the development and operation of the agricultural sector. By coming together, farmers can amplify their voices and exert greater influence over decisions and programs that affect their industry.

The labor shortage and delayed subsidy payments, identified as issues in the survey, have also been examined by Holmes & Mirmohamadi (2017). They emphasize the crucial role of financial assistance and labor availability in agriculture. A lack of labor can restrict farm productivity, leading to increased workloads and reduced operational efficiency. Farmers may also face higher labor costs due to competition and limited labor resources, which can affect their profitability and competitiveness.

Delayed subsidy payments can impact farmers' liquidity, hindering investments and modernization of farms, limiting the adoption of new technologies and methods to improve production (Smith et al., 2020). Farmers cannot rely on stable incomes and financial security if payments are not made according to agreed terms (Jones and Brown, 2019).

The trust placed by more than half of the farmers in guarantees for product placement and sales resonates with the findings of Reardon et al. (2019), who underscore the importance of dependable market mechanisms for the effective operation of the agricultural sector. Farmers who have confidence in these guarantees are inclined to invest in production and expand their operations, thereby fostering a virtuous cycle wherein increased production volumes translate into expanded market opportunities and higher income levels. Smith et al. (2020) also emphasize the significance of trust in agricultural market mechanisms.

The water shortage, particularly in the context of climate change, has been researched by Smith et al. (2020). Strategies for sustainable water resource management and adaptation of agriculture are crucial for addressing this challenge. Sustainable water resource management involves implementing measures for sustainable water use, such as wastewater treatment and building infrastructure for water collection and distribution. Additionally, Keskinen et al., (2010) have contributed valuable insights into water resource management strategies in the context of climate change."

Agriculture serves as the main source of income for nearly two-thirds of the surveyed farmers. The sectors with the highest representation are crop farming and animal husbandry, reflecting their interdependence in providing livestock feed. Most farmers are members of agricultural associations, contributing to both their individual progress and the overall advancement of the sector.

However, more than half of the farmers reported facing a labor shortage. On a positive note, they do not experience delays in subsidy payments and receive timely payments for their products, fostering satisfaction. The majority trust the guarantees for the sale of their products, which is crucial for their continued engagement in agriculture. Water availability for irrigation and livestock is generally sufficient for most respondents.

In conclusion, livestock breeding is a crucial component of the agricultural sector, offering substantial economic, nutritional, and social benefits. Nonetheless, it also encounters challenges related to sustainability and environmental impact. Therefore, it is essential to focus on developing and implementing sustainable and responsible practices in livestock breeding. This involves adopting innovations and technologies to mitigate negative environmental effects and improving resource and waste management. These efforts underscore the significant and multifaceted role of livestock breeding in agriculture and pave the way for further exploration of this critical area.

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