

Upgrading Value Chains through Farm Advisory [†]

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Abstract: The article discusses the benefits of an integrated farm advisory program on sheep farms, focusing on improving their economic performance. The program involves a team of experts providing advice on animal nutrition and farm management, and conducting a thorough techno-economic analysis before and after recommendations. The economic impact is assessed using a partial budget tool. Results show increased yields, decreased production costs, and increased gross value added. The program requires a cohesive group of experts, trusting relationships between farmers and consultants, and funding. Implementing this program on a large scale can upgrade the relevant value chain.

Keywords: agricultural; counseling; livestock; farmers; management

1. Introduction

With the global human population rising at an alarming rate and climate change posing the greatest threat to food security, it becomes more critical than ever to upgrade the agri-food value chain (VC), which should be in line with the principles of sustainability [1,2]. Particular emphasis must be placed on improving the quality of agricultural products as a way of upgrading production systems, using environmentally friendly methods and ensuring a sufficient farm income, while at the same time promoting social cohesion [3–5]. However, specialised knowledge is required to achieve the above, which farmers often do not possess [6,7]. The EU has identified this lack and created the Agricultural Knowledge and Innovation System (AKIS), which aims to improve European agriculture's efficiency, competitiveness, and sustainability, by providing techniques and financial and environmental advice [8]. In Greece, a professional advisory support program for livestock farmers has been developed and applied under the scientific guidance of professors and advisors of the Agricultural University of Athens [9]; the program is financed by the 'New Agriculture New Generation' organisation through the founding donation of the Stavros Niarchos Foundation. The management of livestock and the feeding of farm animals is the main focus of the program.

The article addresses the practical aspects of this particular farm advisory initiative, including the benefits and the challenges encountered in this effort.

2. Methods

In 2020, the university's team of experts provided six advisories in Thessaly; the same group also offered, from 2021 to 2023, twenty advisories in the same area and six advisories in Crete. Of the above advisories, fifteen are still in progress. The farm advisory (FA) structure includes technical advice, which develops after three visits. The counsellor recorded the current techno-economic situation on the first visit and identified the farmer's



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needs. Customised advice was designed based on each farmer’s needs between the first and second visit. The second visit was dedicated to presenting the proposed solution to the farmer. Before the third and final visit, the counsellor verified the advice’s effectiveness and made adjustments if necessary. The third visit recorded the farm’s new techno-economic status following the implementation of the advice (Figure 1).

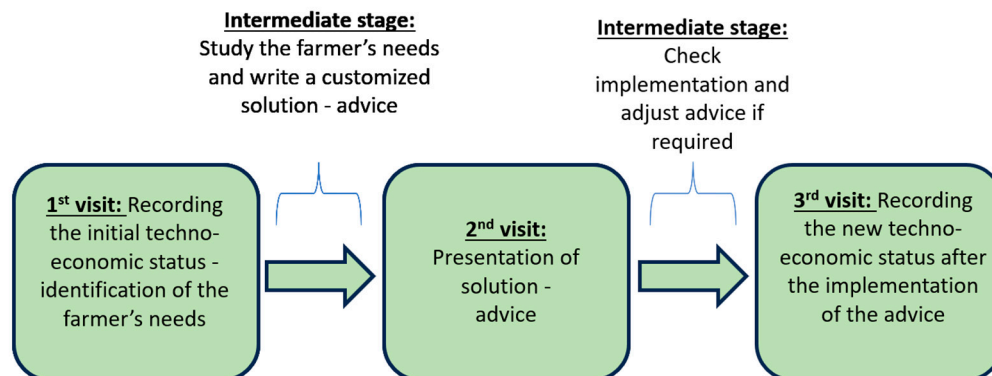


Figure 1. The stages of the advisory program.

Finally, depending on the type of advice, an economic tool is chosen to evaluate and compare the livestock farm’s initial and final economic performance. The initial and final state of the livestock farm is compared using a partial budget, or through the calculation of the main economic results.

3. Results and Discussion

The agricultural advisory process can be complex, and farmers must rely heavily on counselors to help them make informed decisions. The basis for such an endeavour is integrating technical and economic expertise at the farm level and a team of experts with internal cohesion. Consultants must provide clear explanations of technical concepts. Yet, some farmers are hesitant to implement the advice; so, the consultant must show them how they will benefit from it upfront. The initiative works in a context of effective communication and trust between the consultant and the farmer. Most of the advice was about improving the nutrition of farm animals, while the rest of the advice related to the implementation of Artificial Rearing of Lambs (ARL), the establishment of small cottage industries, and the purchase of some equipment related to animal husbandry (Figure 2). Nutrition advice prevails because sheep feeding corresponds to 60–70% of the total variable costs of a livestock farm [10]. Most farmers provide an unbalanced ratio, unjustly wasting feed [11,12]. Therefore, the general financial situation of the farm can improve by reducing the cost of feeding the animals. A balanced ration can increase milk and meat yields. The modification of the ration is easy to implement by the farmers without requiring a large waste of financial resources. Regarding the establishment of small cottage industries, small–medium farmers often face difficulties in processing the raw materials they produce, since they do not have access to appropriate food processing equipment, losing a part of the added value produced during processing [2,13]. Thus, offering this kind of advice helps to deal with the problematic situation. In recent years, the rise in the price of sheep’s milk makes the farmers seek to increase the marketed amount of milk. One way to achieve the above is the ARL. Through this advice, the lambs will reach the desired weight faster, limiting the waste of resources. The purchase of the appropriate equipment, such as a milking machine, can improve the efficiency of the farm [14].

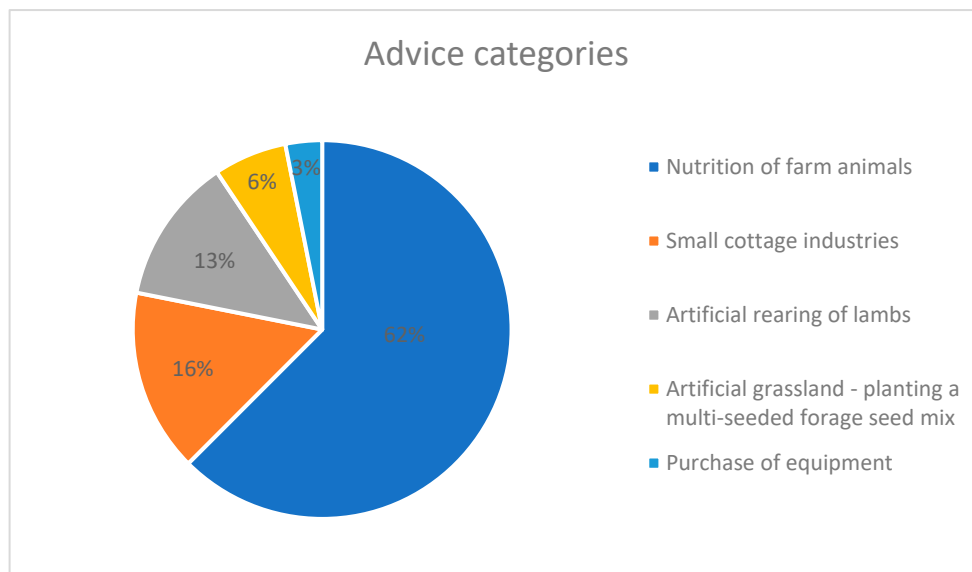


Figure 2. Advice categories.

In Table 1, various specific advice that have been implemented are shown indicatively.

Table 1. FA case studies.

Brief Description of Advice	Capacity of Animals	Total Impact of Advice	Impact of Advice per Ewe (Euros)
Improvement of Existing Ration (IER)	Ewes: 220	Increase of the Gross Added Value (IGAV): 18,121 euros	IGAV: 82.4 euros per ewe
IER, after previously grouping the dairy ewes according to body weight	Ewes: 240	IGAV: 10,055 euros	IGAV: 41.9 euros per ewe
ARL	Ewes: 500 Lamb: 750	IGAV: 10,235 euros	IGAV: 20.5 euros per ewe
Expansion of distribution channels and addition of new products to the existing ones in cottage cheese production	Ewes: 100 Goats: 30	Increase in Revenue (IR) by 9698 euros	IR: 97 euros per ewe
IER	Ewes: 100 Goats: 30	IGAV: 5300 euros	IGAV: 53 euros per ewe

Reference: Field Research.

4. Conclusions

An advisory program for livestock farmers has been developed and applied in various regions of Greece, focusing on managing livestock farms and feeding farm animals. Farm advisory is crucial for farmers to boost their productivity and reduce expenses, ultimately improving the performance of their farms. This process requires establishing a coherent group of experts and incorporating technical and financial expertise applied at the farm level. The three-visit method is successful, but communication between the counsellor and farmer is critical. Partial budgeting is the primary method to assess the impact of the advisory, which yields highly favourable outcomes. Another factor that contributed to the success of the program was the availability of funding. Advice for agriculture can increase farmers’ income and assist in sustaining the local population, thereby preserving

the economic and social fabric of rural areas. As a national AKIS system has not yet been established in Greece, this program could be a successful groundwork for such a system.

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