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# Sheep production in Hungary – is it a sustainable sector?

**Hajnalka Madai – András Nábrád – Miklós Lapis**

*University of Debrecen Centre for Agricultural Sciences and Engineering,  
Faculty of Agricultural Economics and Rural Development, Department of Farm Business Management and Marketing  
H-4032 Debrecen, Böszörményi 138, Hungary,  
E-mail of corresponding author: hmadai@agr.unideb.hu*

**Abstract:** The question of sustainability of agricultural **production** especially animal production and events leading to its development can be dated back to the second part of the last century. Sustainability is a priority subject matter as it is a core element in our existence and in the survival of the forthcoming generations. The notion of sustainability comprises three aspects: ecological, social and political and economic target systems, which by now have been supplemented with cultural and regional elements including the protection of environment, local traditions, scale of values, cultural and historical heritage. The principles of sustainable development also include the improvement of human and animal health and the maintenance of vital rural communities. The priority notion of sustainability of agricultural production refers also to animal husbandry and especially sheep production. Sheep have contributed substantially to the grassland-based agricultural production in Hungary for centuries. Sheep sector is important in rural areas as the tool of sustainability of animal production. It should also be highlighted that contrary to numerous efforts, the globally difficult process of sustainable development poses almost unsolvable problems for implementers even on local and regional levels. This paper will review briefly the levels of sustainability in the Hungarian animal production with a special regard to sheep production and their content and then points out the most significant economic issues by the application of “SWOT” – analysis, “problem tree” and “structure of objectives” methods, on the grounds of the received findings.

**Key words:** sheep production, sustainability, problem tree, swot

## Introduction

Sustainable agriculture and livestock production covers three main goals nowadays: environmental, (ecological) health, economic profitability, and social and political equity. Local levels have failed to receive that much attention, although certain tasks such as sustainable agriculture or regions are much more likely to be solved on local (national) levels. *Csete L.–Láng I.* (2005) asserted that the sustainable development of agro-economy can result within the system of correlations and interactions among content, tasks and levels. Geographically scattered different size agricultural producers play a significant role by the introduction of sustainable farming systems and the operation of sustainable enterprises; however, they provide new opportunities for the exploitation of regional and national levels as well. Utilizing livestock in agriculture often improves the sustainability of the system of an environmental (ecological), economic, and social viewpoint. Animal production can be economically sustainable because of its role in trade, market and feed supply disruptions, diversifies producers' activity, decreases controls risk at farm and national level, and enhances farm maintenance, increases job possibilities for the rural population. But in a globalised and also highly regulated economy is a more complex problem. Sustainability of

course next to economic aspect depends on the two other aspects and especially the attitude of people and politics. The evaluation of sustainability also basing on the level of examination: local, regional or national.

## Material and method

In 2007 the Department of Agricultural Economics and Rural Development, Centre of Agricultural Sciences and Engineering, University of Debrecen organized a series of venues entitled “Generation of projects based on sector-specific innovation in various sectors of animal production”. The program was supported by NKTH (National Office for Research and Technology) and ÉARFÜ (North-Great Plain Regional Development Agency) in the framework of the Gábor Baross tender dossier. The participants of the events were requested to expand their ideas concerning the conference lectures; moreover, their proposals in relation to the problems of the sector. In all the issues related to the industry (improvement, variety, foraging, technology, processing, trade, animal health, sectoral control, watchdogs, economics), well-renowned experts were invited to give lectures and to introduce discussions. The event was interactive, as after certain vertical blocks of lectures participants could give their comments and

ask questions. All the participants of the conference were asked to prepare a written memorandum on the advantages, weaknesses, potentials and threats of the sector and send them for the organizers. Based on this material I and my colleagues prepared the SWOT analysis and the problem tree of the sectors and also the structure of objectives leading to the solution of the problems. We are introducing the result regarding to sheep sector.

We did not revise what was mentioned and written down there (we did not supplement them and did not take away anything from them). In our opinion, we were not allowed to do so, as all the sectoral players have a good understanding of their own special areas. We merely strived to systematize what was said and written down at the conference. In the subsequent part of the present study I present and evaluate the focal economic issues of sustainable animal production especially sheep production on the basis of this work. As the first step of the relation of cause and effect we considered weaknesses and threats. On the strength of these findings we prepared a so-called problem tree showing elements in logical relation with each other. To eliminate the problems, we outlined a so-called system of objectives.

## Results and Discussion

**Weaknesses and threats, the problem tree:** The weaknesses and threats of sheep sector were grouped in logical groups. Human factors, production, consumption, processing, trade, capital supply, animal health and factors affecting the environment are included in separate factors. Our listings follow the alphabetical order and not ranks.

**Weaknesses:** If we consider sectoral problems, it can be seen that they have a lot of elements in common and several similar weaknesses. In sheep sector where forages are consumed, the lack of sectoral strategies was highlighted. “Hunger” for cutting-edge knowledge, low capacities for pushing their interests and low social prestige, the lack of experts and producers joining their forces were mentioned. In the productive sector high forage prices and cost level were mentioned. Naturally, in accordance with the characteristics of technical sectors, specialities also emerged: the size of plants, indicators of progeny, slurry, forage supply etc. In the problem area of consumption and processing, non-competitive processing structures, product improvement and the lack of innovation, inflexibility were shed light on. In the sheep sector, low national consumption, the lack of processing capacities, the low level of processing were mentioned. In the category of capital supply sheep sector opinion were: lack capital! Even the equity ratio needed to make use of supports and for pre-financing is not available. A characteristic problem of capital for fodder users is that in ownership conditions the forage area, livestock and stables are separated from each other. In landscape-protection areas, producers of sheep pointed out existing anomalies.

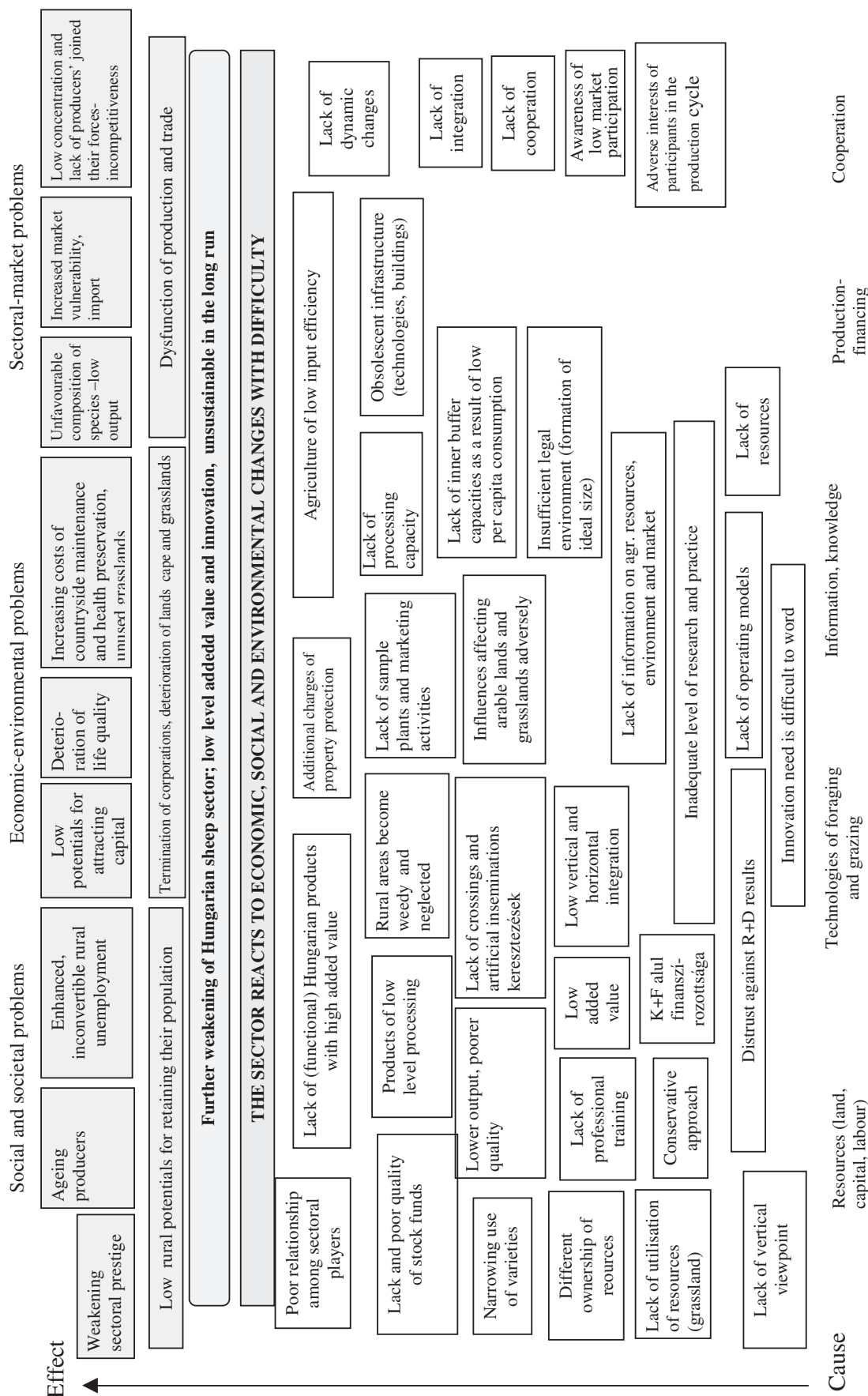
**Threats:** In the analysis of threats it seems to be apparent that the number of human factors has reduced as compared to

threats. If the existing system prevails for long, threats will include the contradiction between ageing labour force and the simultaneous problem of the ceasing layer of small-scale producers, which can further impair the prestige of animal production. The danger that the forthcoming political leaders may outweigh agricultural experts has also emerged. The spreading of bureaucracy and its unnecessary expansion can set back producers’ and processors’ vigour. In the production sector, in the case of forage users, the characteristic danger of fodder price rise can already be prognosticated in relation to bio ethanol and bio diesel production. In parallel, income losses due to the prospective increase of energy prices and labour costs can be pointed out everywhere. In the area of consumption and processing a source of danger threatening could not be detected. Several sources of threats have loomed in the commercial sector. The apparent threat endangering the sudden advance of international competitors, the survival of weak market bargaining power, the enhancement of asymmetric successes of interests dictated by trade and the survival of the black market all impair the position of the sector and enhance the fear that Hungary may become a net importer in several sectors. As regards animal health and environment, all sectors of animal production face several threats. These include diseases, epidemics, inland water and flood dangers, environmental restrictions and extra expenses in relation to climate changes.

**The problem tree:** If we build the categories of weaknesses and threats on to each other in a logical process, we receive a so-called sectoral problem tree. The complexity of the figures shows that several causes lead to the before mentioned serious causal relations, namely to competitive weaknesses, to increased national and international defencelessness, to social-societal, economic, environmental, sectoral and market problems. The logically connected elements of the problem tree show the relations of cause and effect from bottom to top.

**The problem tree of sheep production:** The problem tree of sheep farming shows that the resultant of problems is focused in a single great block of effects, which is entitled “a sector reacting to economic, social and environmental changes and challenges with difficulty”. This indicates that there is not merely one solution for solving the relation of causes and effects and sometimes only various approaches can yield results.<sup>1</sup> (Figure 1). The lower part of the problem tree lists the problems, which is the same as in the previous ones. If we recall the definition of sustainability, actually we can see that the sector is not stable from this aspect either. This is a relation of cause and effect which further weakens the competitiveness of Hungarian sheep farming, its added value and innovation are of low level, and thus it is not sustainable in the long run. For all these reasons the region cannot retain its population, enterprises are liquidated, landscape gets transformed; production and commerce become unviable. Social and societal problems are embodied

<sup>1</sup> This problem tree is published by Nábrádi András – Jávör András – Madai Hajnalka (2007)



**Figure 2.** Problem tree of Sheep sector

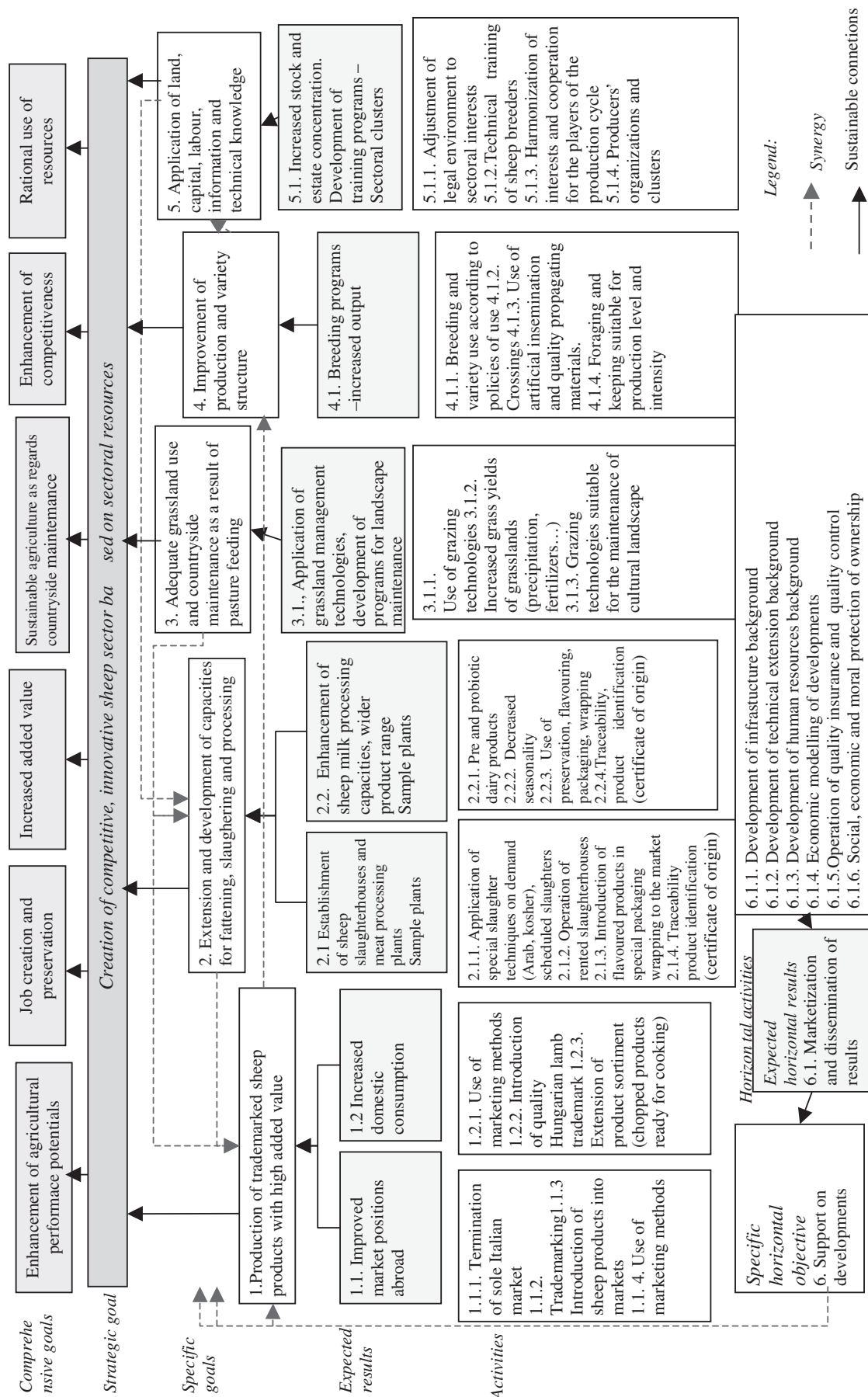


Figure 2. Objectives' tree of sheep sector



in the fact that the sector loses its prestige, the production layer is ageing; however, provincial unemployment, which cannot be converted into other areas, soars. Economic-environmental problems are due to the fact that the capital attraction potentials of sectors are low and as a result of unexploited and neglected grasslands the costs of landscape maintenance and health care increase. A direct consequence of the liquidation of enterprises is the deterioration of the quality of life. Sectoral-market problems are manifested in the fact that due to unfavourable variety structure, yields are low, defencelessness on markets can further increase and the lack of import, low concentration and producers' cooperation can render the sector non-competitive from the outset. To our understanding, the presented example represent that the logical system of relations in the problem tree built on the SWOT analysis can be well applied for the investigation of sustainability and for the exploration of cause and effect relations.

**Structure of objectives, hierarchy of targets:** In animal and sheep production, one of the most outstanding and significant areas of agriculture, our objective is to increase productivity, job creation, job preservation and added value, to improve competitiveness and simultaneously to rationalize the use of resources. The strategic objectives of the sector can be summarized in one sentence, as follows: to achieve competitive production in Hungary again. To realize this, specific objectives should be worked out, under which we can subordinate concrete, expected results, which can be achieved by the simultaneous performance of activities. *Figures 2.* brings together the comprehensive sectoral objectives, expected results and the factors describing realizable activities in the so-called structure of objectives. The layers build on to each other in the system of the problem tree and we modified it to disclose the relations of cause and effect so that the factors causing disadvantageous situations can be terminated. As it can be seen, the structure of objectives displays 5 well definable specific features (from top to bottom): comprehensive objectives, strategic objectives, specific objectives, expected results and activities. Our comprehensive objective is the one directly above the concrete target, while our results are objectives linked to the concrete target from the bottom, to the realization of which we rendered concrete activities. From among these we highlight some economically significant issues.

**Evaluation of Sheep production in point of sustainable view:** In the system of the structure and hierarchy of objectives it must be stressed that certain elements of potentials and their realization separately can improve the situation of a producer or trader, but it should be noted that in the case of the whole sector of sheep farming, merely complex measures can lead to sound effects. There is another extremely important element, which is true not only of sheep farming but of the whole sector of animal production as well. Responsibility on the policies for the development of the strategic, operational and support system of the sector cannot be fitted into the system of the hierarchy of objectives easily. On the table of the structure of objectives in sheep farming a special element of activities occurs, which is collectively called a horizontal activity (then

result, specific target built on to it). The word "horizontal" denotes that it is related to all activities. If we have a look at this figure, it shows background developments for infrastructure, extension and human resources necessary to realize these activities. If we survey the first system of objectives, the following logical series can be set up: *By the application of marketing methods, by the introduction of sheep products into markets, by trademarking, by the termination of the single Italian market, our foreign market position can improve, which, besides the simultaneous increase of domestic consumption, incites the production of trademarked sheep products with high added value and thus promotes the creation of competitive and innovative sheep farming.*

Sheep, milk, wool and products made from them, the production of breeding animals, the production and marketing of reproductive materials can be focal points among the objectives of the cluster. In the interest of the future, tenacious labour is coming now, as the successful solution of problem requires adequate political or social background and sectoral climate. The organization of the sheep sector cluster or clusters has been started by the University of Debrecen.

## Acknowledgement

Our hypothesis, which claims that under stationary conditions sustainable animal production with a lot of factors and animal breeding enterprises cannot be maintained, has been duly justified. The reasons behind the negative tendencies are manifold and various. They can only be disclosed by the inclusion of the whole industry of sectoral players. We cannot state that the problem of sustainable animal and sheep production has already been solved now. We have just taken the first steps to achieve this noble purpose. What is clear and inevitable, follows like this:

1. The precise and expedient clarification of all the problem spheres relating the sectors of animal production is reasonable by the inclusion of all the participants of the product cycle in similar structures.
2. The starting point of analysis is to disclose the relations of cause and effect.
3. By setting up the structure and hierarchy of objectives, activity tasks can be identified.
4. All these tasks should be coordinated according to a time schedule and included in a complex system, and after this, the strategic plan in sectoral breakdowns and then for the whole sector shall be developed. If only certain activities are pointed out and realized, this can pose a lot of threats.
5. The triple pillars of sustainability, the fulfilment of environmental, social and economic expectations can only be realized by laying down the strategy.

Although our production and consumption are insignificant globally, the export-import activities of our animal production are measurable in world trade, even if only slightly. On regional level its impacts are of medium power, on national and local level its impacts are distinctly

strong. Its relation to the countryside, natural resources and natural, social, economic correlations and interactions is weak on regional, medium and national levels and strong on local level. To my thinking, the greatest problem in the relation of sustainability and animal production are posed by the way people think and live. As I have mentioned, my judgement is subjective. From among the major content elements of sustainability, purposeful ways of thinking, behaviour and lifestyles matching them are decisive.

## References

**Csete László – Láng István (2005):** A fenntartható agrárgazdaság és vidékfejlesztés. Sustainable Agribusiness and Rural Development. Hungarian Academy of Sciences, Budapest, Hungary. ISBN 9635084382, ISSN 14178435.

**Nábrádi András – Jávör András – Madai Hajnalka (2007):** Present Situation of Sheep Sector, Outlook and Possible Development. University of Debrecen, Hungary. Advisory Serial 13. pp. 1–149. ISSN: 1588-8665

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