

# COST-INCOME ANALYSIS OF HORSE KEEPING ENTERPRISES IN THE SZIGETKÖZ REGION

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## Abstract

*Proper and economical horse keeping is influenced by many factors. Calculating the costs of horse keeping, one should take into account the specific needs of the horse (mainly concerning the keeping technology and feeding). However, probable costs and income are also influenced by the form of utilization and by the working mode of the animals. Cost-effectiveness is determined by the relation between costs and income. In this study costs and potential income related to horse keeping were examined at several horse farms in the Szigetköz region. The study definitely shows that labour cost is the major cost of horse keeping, which is followed by feeding cost, then cost of veterinarian and the other costs category.*

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## 1 Introduction

Horse is one of the farm animals, its economic importance has significantly decreased in recent decades. On the other hand, as a part of the daily lives of people it plays an increasingly significant role in health protection and in spending free time. In Hungary it also plays an important role in tourism. It is very important that demand originating from the developing tourism sector, demand for health protection from the sports and leisure activities side, and demand from abroad should be satisfied by domestic horse breeding at the appropriate standard [1] [2] [4]. In addition, horse keeping plays an important role in job creation, for example in Germany every third horse kept in farms creates a job.

Horses always played an important role in history in strategy, transport and in agriculture, however, its mission has completely changed nowadays. Economic considerations may be different, since horse keeping may have several purposes. The form and of utilisation highly affects cost types, but also the amount of compensation to expect.

Nowadays one of the most important benefits of horse keeping is to establish a relationship between people and the nature, and this function should be maintained and strengthened also on the long term. Hungary's national program, the so-called Kincsem Equestrian National Program was founded with the objective of putting horse sector on the developing direction again in Hungary to turn the decades-old declining tendency over, so that Hungary can wear the "horse nation" title with reason again. Kincsem Equestrian National Program was approved by the Hungarian government on the 29<sup>th</sup> of February 2012. The Government's decision 1061/2012. (III.12.) declares the professional tasks in 14 points that have to be performed in order to promote the horse sector.

Currently there are three major types of horse farms in Hungary, based on farm activities and services. The stud farms or breeding farms are engaged in breeding and propagation. Its main products are young horses which were born and brought up on the farm, sometimes young horses are also trained on the farm to some extent. Pasture and a clean, dry resting-place are basic needs on the stud farms. In case training takes place on the farm, other buildings like a stable with boxes

or an indoor riding arena are also needed. The mares of other owners can also be kept on such farms, providing all related services which may arise in addition to horse keeping.

The next type of horse keeping is called rent-keeping or board-keeping. In case of board-keeping the owner rents the keeping place for the horse at a farm and pays for all necessary services that is provided by the farmer. This type of horse keeping is an economically advantageous form, which is very wide-spread in the Western countries.

The third type of horse keeping is the riding school and tourism-related farms. In this case the farmer offers its own horses for riding, and other services are often available.

These farm types often work together complementing each other, and in many cases other equestrian and non-equestrian activities [3] are also present on the farms. Therefore, horse keeping can be considered as a special sector, since it cannot be classified clearly as a "traditional" agricultural sector where raw materials are produced for food industry. On the other hand horse-keeping is not an industrial sector, and only a partly belongs to the services sector.

## 2 Methods

In this study scale and structure of costs and income of horse keeping was examined at eight farms offering both riding possibilities and board-keeping, all farms are located in the Szigetköz region. Keeping technology of the farms are slightly different from each other; three of them are engaged in horse keeping based on a totally extensive, solely outdoor technology; in three riding-schools animals are placed in individual boxes, while the remaining two farms apply partially box-keeping and partially outdoor (with fold) solution. The survey was carried out from the end of 2014 to the beginning of 2015. Various incurred expenses were surveyed, reviewed and compared at the horse keeping farms related to the current spot market prices. Furthermore the opportunities of income, development and support options were also estimated. Information was collected by written questionnaires combined with in-depth interviews.

During data evaluation feeding, animal health, labour and also other related costs (e.g. amortization, maintenance cost, etc.) as well as various income opportunities were analysed. The average annual costs per horse was calculated, and the share of different cost types were also examined. The minimum level of total annual income (per farm and per horse) was estimated, and based on the calculation, the minimum labour hour per horse to the break-even point was determined.

## 3 Results

### 3.1 Costs

Feeding technologies used at the surveyed farms are roughly the same: feeding twice or three times a day, the main feeds are hay and fodder - mostly oats, barley (in one case horses were not fed with any fodder). Two of the farms buy all the feed that is needed, two farms produce all the feed themselves and four farms partly produce and partly buys the forage. All farms intend to minimize fodder costs, but each farm tries to reduce feed costs in different ways. At some farms own production is possible, in some cases fodder is purchased on a discount price from another division (plant production division) of the same enterprise. In case fodder is purchased, priority is given to local or regional producers, obviously the location of the seller is not so important in case of various feed supplements.

Based on the results of the survey the total cost of the different farms and the amounts of various cost types were compared. Furthermore, the various types of costs were also analysed considering the number of animals on the farm, in order to calculate the cost per horse values.

It can be concluded that at most of the examined farms the annual feed cost varies between 2.7 to 3 million forints and the annual feed cost per horse is between 50 to 120 thousand forints (which means approximately 4-10 thousand forints monthly).

Animal health care costs usually include vermifuge (applied quarterly or half-yearly), annual or twice-yearly vaccinations and blood tests. In addition, an average annual animal health-care

cost per horse is about 20 thousand forints. Overall, the estimated annual veterinarian cost of a horse is about 30-40 thousand forints. The average veterinarian cost of these eight examined farms is about 33 thousand forints per horse per year (about 3 thousand forints per month). However, unexpected costs should also be considered such as treatment cost of injury, surgery or other diseases, which costs can reach more than hundred thousand or even million forints (and in which the loss of animal work and as a consequence, the lack of income is also included).

Usually 2 or 3 people are employed by the farms either full- or part-time, whose average monthly salary is the national minimum wage or a slightly higher amount. Gross wages are topped by compulsory contributions paid by the employer - 1.5 per cent so-called vocational training contribution and 27 per cent social contribution – these contributions significantly increase expenses. If the national minimum wage is 101,500 forints, the amount of social contributions to be paid is about 29 thousand forints. Labour costs paid by the farms involved in the study are about 1.5-6 million forints per year, on the average 201,745 forints per horse per year (i.e. it is about 17 thousand forints per horse per month with a significant variance).

All other incurred costs include expenses like overhead costs, rental fees, various insurance fees, costs of maintenance, repair and amortization as well as purchasing, or for example, the operating costs of machinery and vehicles. The amount of these items are extremely affected by many factors, including the scale of operation, ownership, types of breeding system or profile of the farm. Regarding examined farms these costs take 1-6 million forints yearly. The studied farms work with 20-30 horses on the average, monthly costs of operation can reach several hundred thousand forints. Annual cost per horse of the investigated farms are presented in Figure 1.

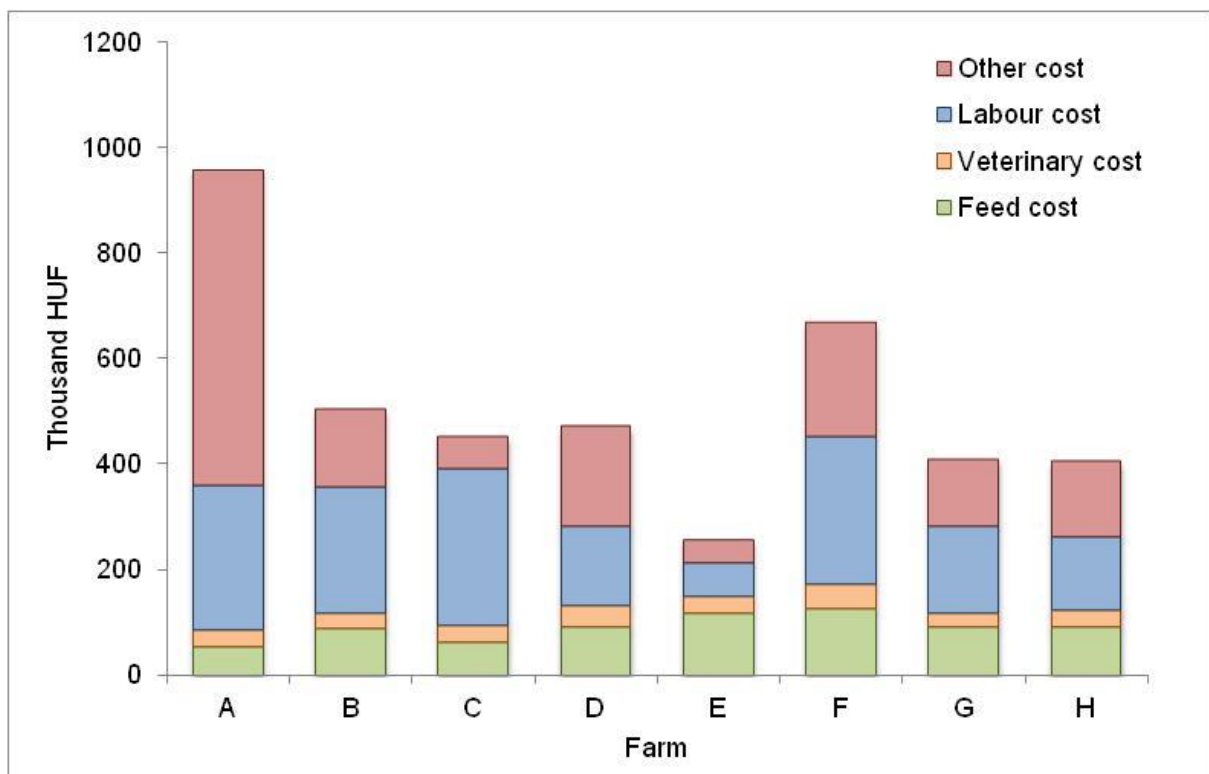


Figure 1. Various cost types per farm (per horse)

As shown in Figure 1, the share of the various cost types is roughly similar at the farms and also the amount of costs by cost types follow each other in the same order (except for those farms where the feeding cost is the highest).

It is worth pointing out that production costs and per-unit costs are different at the investigated farms. In case of production costs the effect of the keeping technology can be clearly proved, since production costs at free-range farms (A, C, E,) are significantly lower (5-7 million forints) than the production costs at farms with boxes or mixed (boxes and free-range technology)

farms (B, D, F, G, H), where this amount can exceed 10 million forints per year. In case of per-unit costs (per horse) these sums differ from each other. Farms with boxes have about 20-30 animal stock on the average. The per-unit total costs of these farms are roughly the same (400-500 thousand forints).

However, only one farm with more than 20 horses and using free-range technology has lower per-unit (specific) total cost. This amount is almost half of the specific per-unit cost of farms with box-equipped stables. The farm with extensive keeping technology with less than 20 but more than 10 horses can expect almost the same specific per-unit cost as its competitors with stables. In case of farms with less than ten horses, specific per-unit cost is nearly twice the average of the amount at farms with box-stables. It can be proved that – similar to all other livestock sectors – in case of horse keeping the number of animals has a significant effect on per-unit, specific costs and thereby the number of animals basically determines the economical operation of the farm. In this sector it is also important to determine and adopt the optimal livestock size both from operational and economic point of view.

Per-unit specific costs of the eight farms were examined also together, the amounts of the same cost types were compared and the share of the different cost types from the total costs were calculated. The annual costs per horse calculated from the data of eight farms are as follows: the total annual cost is 515,316 forints, which means 43 thousand forints per horse monthly on the average. 39 per cent of this amount is labour costs, 37 per cent is the other costs, 17 per cent is feed costs and 6 per cent is veterinary costs, as shown in Figure 2.

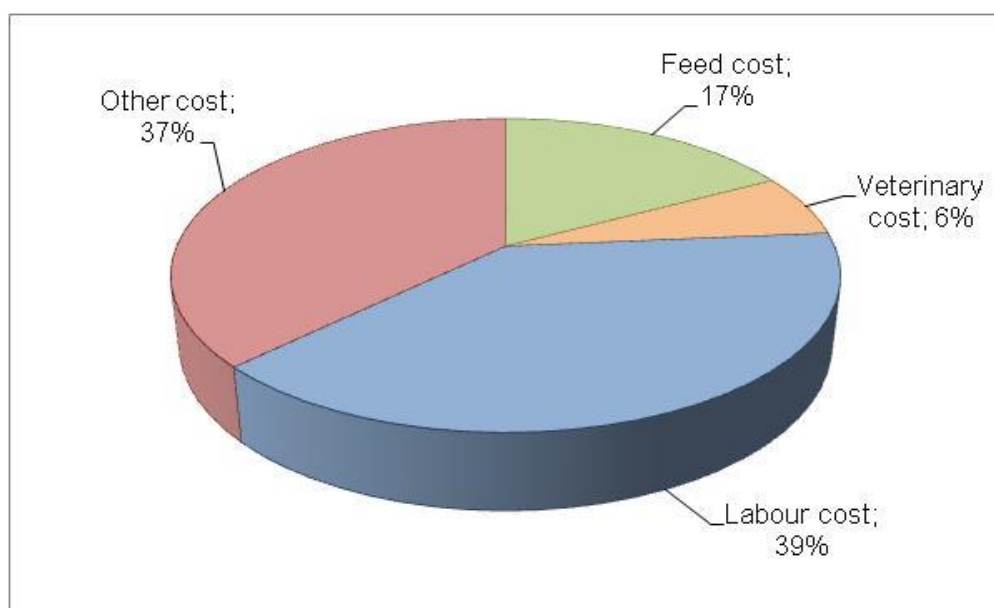


Figure 2. Share of annual costs per horse

It can be proved that labour costs add up to the largest share of the costs. Consequently horse keeping is a labour-intensive activity. Similarly, other costs are also a high proportion of total cost. These two types of cost provide the three quarters of the costs at the farms. Therefore when planning future costs of farms, the primary task is to optimize the labour costs. Setting the right job or activities is very important for the farms, as there may be unused capacities or too busy periods due to the uneven nature of horse riding lessons. The enterprise should also ensure the optimal allocation of work.

#### 4 Income opportunities

It is a significant financial burden and requires considerable time-, work- and energy input to manage a horse keeping farm, so it is very important to plan forward with sufficient precision. It is

also important to follow and evaluate the opportunities of farm's income continuously. Almost all of the investigated farms can count on the fees of contracted boarding, and fees of horse riding instructions. Some farms breed horses and organizes equestrian competitions, which is also an income for them. The farms often get income also from lodging, accommodation services (although income from tourism comes indirectly or additionally to horse keeping).

Monthly fee of board-keeping is about 40-65 thousand forints, for an enterprise it is about 80 thousand forints. Fee of riding and instruction costs are 2000-4000 forints every time, although that highly depends on period and devices (landing gear leg, class riding, terrain riding, lead of pony or individual session, perhaps competition preparation). Range of services can be expanded by a variety of programs for children, camps and study groups which opportunities are used by most of the farms. The farms can get sources by tenders too. One of such obtained tender was the Child Cure Program of MOL with 1,4 million forints, or the non refundable subvention for construction of indoor riding-school with 12 million forints, which was part of the national Széchenyi Plan. In these cases there are further tasks to the farm with the follow-up (especially administrative tasks like creating follow-up reports).

To work effectively farms must have more income than costs. In this study a minimum level of income for each farm was defined that a farm has to reach in order to cover costs, to reach the break-even point. Income of farms is obtained from leased board-keeping, riding instruction and lodging. As lodging is considered to be an unsure income opportunity and it is also not related to the equestrian activities directly, predictable income can come only from horse riding instructions and leased board-keeping. Therefore only these two latter options were taken into account during the calculation.

In the case of leased board-keeping, costs occur at the horse owner depending on the details of the board-keeping contract, and the farmer can expect a fixed monthly income from this activity..

25-35 per cent of the horses in the examined farms are kept in the frame of board-keeping agreements, while other animals are owned by the farms. The rental fee is fixed (an average of 55,000 forints / horse / month), so if it is assumed that the number of leased kept horses is constant in a year, then the same rental income can be expected for the farms monthly. It was calculated what proportion of the total cost is covered by rental fees. It was found that in the case of outdoor free-range keeping (C and E farms) income from rented board-keeping covers 60-70 per cent of total cost, while in case of boxed stables (B, D, F, G, H) it is only 30-50 per cent. The farm signed with "A" is an exception as the farm owner owns the stock. The remaining part of the amount necessary to cover costs is ensured by income from riding instructions. This remaining amount was divided by the average tariff of 3000 forints per hour, to obtain the minimum number of riding lesson hours that each farm must complete in order to at least recoup the costs. That means 12 riding times per week (rounded 3 times per week per horse). This number of hours is not even enough movement for a healthy horse, so it is not stressful for the animals.

Assessed undertakings are working successfully for years, so horses kept on farms are working profitably.

## 5 Conclusion

Examinations showed that the highest share of costs in horse keeping is labour costs, followed by other costs, feeding costs and finally veterinary costs. The well-known phenomena that horse keeping is a time- and work intensive activity is supported by the obtained data. Of course, if it is kept in free-range (especially if it is the owner's horse), the situation and cost structure can be different.

Related to the facts mentioned above it is important to note, that planning of forage cost is not enough as there are a lot of other – often significant amounts – costs arising from horse keeping which must also be paid.

Based on the economic data of farms involved in the investigations it can be stated that the share of feeding costs and veterinary costs are quite similar, but in case of labour costs and other

costs (of course, also the total cost) there are multiple deviations among the farms. Assuming successful economic operation, it will modify the minimal amount of labour per horse significantly.

It is important to emphasize that most data used in the study originates from the registers of the examined farms. Changes of basic data and circumstances (prices, wages, fees, environmental facilities, clientele, activity, expectations etc.) can modify the results or their evaluation.

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