

History and overview of the horse breeds history essay



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Horse is a majestic animal which has been domesticated more than 7000 years ago and has spread all over the world during the last 5000 years. It is an animal loved by every human being without an exception for its majestic look and the ability that the horse could be easily trained for various purposes of mankind due to the creature's intelligence and docility when compared with other animals. Due to its reliability people have used this animal as a widely accepted land transport method with mobility and speed until the horse got replaced in the recent past with the dawn of motoring age. The different roles it had played in war as war mounts, chargers, gun draughts in the armies of renowned emperors like Alexander, Napoleon and Genghis Khan and the role that horse played in World War I could never be matched. Still most of all the countries in the world use this animal for ceremonial purposes, for sports activities and some still utilize it for heavy work and agricultural purposes as well.

Evolution of this mammal that belongs to the family of "Equidae" and biologically known as "Equus ferus caballus" at present, has taken place for more than 45 million years. There have been mainly three types of wild horses, namely Feral, Tarpan and the Przewalski's horse from which the modern day variants have developed. The Feral horses are still in existence while Tarpan horse is extinct where the last animal has died in captivity at a Russian zoo in 1909. Przewalski's horses which were also thought to have become extinct from the world were rediscovered in the remote parts of Mongolia. With the help of the science and the conservation efforts taken by the animal lovers, it still roams in the prairies of Mongolia and Russia.

In the modern horse family there are seven family members other than the horse, namely Ass or the Donkey, Mountain zebra, Plains zebra, Grevy's zebra, Kiang and the Onager. Most importantly and interestingly, these types can be crossbred with each other to develop new types though some are sexually infertile (although the result of crossbreeding a donkey and a horse is a mule, two mules cannot reproduce another mule). Another interesting point is the difference between the horse and the pony; though people have a common belief that they belong to different species, they don't and the only difference is based on the height of the animal.

The standard unit of measurement for the height of horse is known as Hands[1](4 inch). If the height of the animal is above 14.5 hands it is known as a horse and animals below this height are known as ponies. However there are few breeds that measure below 14.5 hands and still called as horses than ponies despite the international standard being 14.5 hands.

There are many types (more than 300) of modern horses and ponies available in the world according to the general stud book of horses but they belong to three groups based on the ancestral blood lines; the benchmark quality considered for breeding and upgrading.

Hot blood – These were the horses that evolved in the Middle East and Far East towards Mongolia, adopted to live under hot climates. They are small built with shiny coats and are widely renowned for their speed and endurance. They are also called the oriental horses.

Cold blood – These horses got evolved in the cold climates in the northern highlands in Europe and Scandinavia adopted to the cold weather conditions
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with a heavy build and thick coats and were generally used for farm and draught work.

Warm blood – When Europeans and the easterners started to interact through war, trade and diplomacy, hot blooded and cold blooded horses too interacted with each other, resulting in the development of the warm blooded horses suitable for riding purposes. This new breed led the process of developing the dominant thoroughbred horse.

During the renaissance in Europe, equestrian sports became the popular leisure time of royals, regents and nobles creating the need and urge of demand to have horses with agility, speed and sprinting capabilities to win competition races. The breeders in England developed the Thoroughbred by crossbreeding the European breeds with oriental Arab horses. Thoroughbred is considered the hallmark of all horse breeds right around the world for the last couple of centuries. Though there are thousands of thoroughbreds round the world, interestingly their ancestry could be traced back to three Arab stallions called Darley Arabian, Godolphin Arabian and the Byrely Turk, thoroughbred horses belong to the category of hot blood type. Most of the warm blood breeds could be upgraded to thoroughbreds which will be the core of this research paper as well.

Picture Although the presences of horses have been reported in Sri Lanka since the Vijayan times, the existences of horses were more prominent after the arrival of Europeans to Sri Lanka. In 1505AD when the Portuguese arrived, they found that their native horses were not much adopted to the tropical environment prevailed in Sri Lanka, hence they started developing a

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new breed using Indian and Middle East horses that could fare well in the existing environment. But they had only a limited area of control within the country and by 1600 AD they utilized the Delft Island to breed horses, since it was an island, remote from the main Island and they had easy access to India to bring horses, the breeding of horses took place very easily and effectively while the island won the title “ Ilha Das Cavallas” or Island of the horses. Delft_Horse. jpg

After the arrival of Dutch, they took over control of the coastal areas of Sri Lanka and further developed the Delft horse breeding facility by introducing new blood lines in to Delft from Far East.

Picture During the early British time they used the same facility much more effectively by appointing a subaltern superintendent for the purpose, subsequently when the entire country was conquered, they abandoned the facility at Delft and utilized Nuwara Eliya and Diyathalawa as their new breeding grounds marking the golden era of equestrian sports in the country. British colonists were able to construct and have racing in Race courses at Colombo, Nuwara Eliya, Avissawella and Boossa in Galle and had a much prestigious polo grounds at Diyatalawa. Their control over the country for a longer time invariably had a positive impact in developing good breeds for their day to day requirements and leisure. DSCN4327. jpg

CHAPTER 2

METHODOLOGY

AIM

The aim of the research paper is to study, analyze and prove the possibility of breeding native thoroughbred horses.

Statement OF PROBLEM

It is evident that we have used horses since very ancient times and the history proves that horses are brought here from India and Arabia. The Mahawansa says in 236 BC two trades'men Sena and Guthika who came to Sri Lanka for the trading of horses took the control of the Anuradhapura city and ruled the country for 22 years. There are some older records in Mahawansa about the horses at the period of King Pandukabhaya (436BC-367BC). The existences and breeding of horses were more prominent after the arrival of Europeans to Sri Lanka in 1505BC. However after the colonial era this majestic animal had been neglected by the people and the breeds which were available got deteriorate in terms of quality with time, limiting the entire breed to a pony in the island of Delft and to a negligible number of horses with few private owners. Horses have been recorded in Sri Lankan history for more than 2000 years; however we have been unable to establish a thorough bred horse breed presently in Sri Lanka unlike other countries in our region and world over.

JUSTIFICATION

Although this research is limited to five thousand words and for a period of little over two months which places lot of implications on the outcome of

such a vast topic, considering the fact that Sri Lanka Air Force have initiated in setting up of an equestrian sport unit, this research can be reasonably justified based on the impact that could be made on this majestic field as a capable public organization through a collective effort with Mounted Police division, Sri Lanka Army and other relevant and interested agencies to add a sense of glamour and pride by replacing foreign horses with our own, that are being used during major state functions such as Independents day parade, Victory day parade and introduce them in military parades.

Further if the objectives of this research could be achieved. At the end of the day it would save exorbitant amounts of money spent on importing horses and enable to introduce and revive horse riding, Polo and other equestrian sports and make a massive contribution to the inflow of tourism and foreign currency.

SCOPE OF THE STUDY

This study will be based mainly on documentary sources. It is intended to gather primary and secondary data information as follows.

Primary source of collection of information are based on documentary sources including publications, Newspaper articles, private horse breeding organizations and government organizations.

Secondary source will be interviews conducted with the professionals of the veterinary science and experts on horse breeding in the country.

OBJECTIVES

General Objective. Analyze the possibility of breeding native thoroughbred horses.

Specific Objectives. The specific objectives of the research are as follows.

The background of horse breeding in the world.

The background of horse breeding in Sri Lanka.

Study about breeding and developing native thoroughbred horses in Sri Lanka.

Study about the problems faced in breeding horses in Sri Lanka.

Analysis on breeding native thoroughbred horses and the advantages of having such a breed in Sri Lanka.

Hypothesis

It is possible to develop and establish a native thoroughbred horse in Sri Lanka.

METHODS OF DATA COLLECTION

The data collection has planned to carry out based on documentary sources including publications, browsing the Internet, private horse breeding organizations and government organizations. Information will be collected from interviews of the professionals of the veterinary science and experts in horse breeding.

DATA ANALYSE TECHNIQUES

The most part of the data analysis will be Predictive analytics. The collected data from different sources such as professionals and experts in the field will be taken in to consideration.

CHAPTER ORGANIZATION

Chapters will be organized on following manner

Chapter 1 – Introduction

Chapter 2 – Methodology

Chapter 3 – Back ground

Chapter 4 – Data

Chapter 5 – Analysis

Chapter 6 – Conclusion and Recommendation

LIMITATIONS

The time available to conduct this research will be approximately 3 months which does not permit a biological analysis with the help of the experts using the Delft ponies or to do a test breeding of a native horse practically by using Delft pony.

The length of the paper will be limited to about 5000 words, and it will not be possible to collect data from all the reliable sources.

CHAPTER 3

THE BACKGROUND

Once the British rule in Sri Lanka ended in 1948, breeding of horses died a natural death with time due many reasons. Non availability of qualified veterinary surgeons in the country became the top most and there were only a handful of elite locals who had the capacity and influence to maintain their animals. Apart from that the Europeans during their time never let the horses in to the wild for natural breeding. Some religious beliefs against animal cruelty and gambling also contributed towards the downfall. After the existing numbers dwindled, people had to buy them from the other countries paying a large amount of money.

Picture Though there are no native horses within the country, as mentioned in Para 9 after abandoning of the Delft Island stud, few horses left in the Island (Picture 1, 2& 3) did survive and the reproduction has taken place naturally. But due to poor natural resources they have adapted well to the harsh environment of the Delft Island. DSCN4328. jpg

As a result, the quality of the animal deteriorated in terms of height and athletic ability thus reducing the entire standard from horses to hard adopted ponies. The Delft Island was not in the proper control of the Sri Lankan government for thirty years due to the war, but as a result of timely action that included the Delft pony in 1970 in to the schedule iii of the fauna and flora protection ordinance that covers the list of “ Absolutely Protected Species” we are still lucky to know a herd of more than 500 wild ponies are in the Island at the moment[2]. According to the Director (operations) Wild

life Sri Lanka, a programme with the help of the Sri Lanka Navy to protect the wild ponies existing in the Island is under way.

No proper veterinary research has been done to identify the type of the ponies available and their adoptability and however, Dr. Sampath Lokugalappathi an enthusiast at the Veterinary faculty of Peradeniya believes that the Delft pony descends from hot blood lines and Warm blood lines taking in to account the recorded ancestry. A proper analysis using the DNA technology could resolve the mystery and according to him since the Delft stud was maintained by Portuguese, Dutch and English, the ponies might carry quality genes of their European ancestors.

HORSE BREEDING IN THE WORLD AND IN SRI LANKA

The earliest people who recorded the breeding of horses are known to be from the Middle East since 1330 AD. Even Europeans started horse breeding many long years back. And further it's believed that the nomads of the Mongolian steps have bred horses for several thousand years.

In the modern day world, many of the countries breed horses on their own for many purpose but Americans Arabians and Europeans mainly breed horses now for equestrian sports. Also many of the western countries breed horses for commercial purposes.

Considering the horse breeding in post independence era in Sri Lanka, most significant developments came as the horse lover cum business tycoon Mr Upali Wijewardane started breeding horses and it is said that he had upgraded the delft blood lines to a certain extent by the time of his untimely
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death. Then in the mid eighties, the Government of Sri Lanka started the much awaited project of upgrading the delft blood lines in to the Sri Lankan thoroughbred horse with introducing Australian thoroughbred blood lines by importing a white stallion named Sydney through the mount police division. The first official half bred of this project was a grey stallion named “ Super Charger” that stole the hearts of local horse lovers. Later the project was expanded through the Mahaweli scheme by establishing an official breeding farm at Kalawewa with the horses owned early by Mr Upali Wijewardane and the new Australian influenced local blood lines, success went to the extent of being able to breed a three quarter bred horse. But during the insurrection in 1988, the facility was destroyed unluckily and all the horses and some pregnant mares carrying the embryos of the upgraded horses were killed by the insurgents.

Picture Although some efforts made to revive the project using Pakistani blood lines in early nineties had not flourished due to various constrains including health complications. Since then no government projects were conducted for breeding of horses. But some of the animal lovers started breeding horses in private capacity. And they were not much interested in breeding a native thoroughbred since it was time and resource consuming and the inability of access to use the new technology. But a horse lover named Mr Ajit Chitty who is a very enthusiastic still do horse breeding in his farm at Galewela. He has started breeding horses using Delft ponies and according to Mr Chitty they have bred up to three quarter bred level by cross breeding with an Indian thoroughbred (Picture 4). 256729-horses-the-farm-dambulla-sri-lanka. jpg

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Further Gamini Jayarathne Stables are also pioneers on horse breeding in Sri Lanka. They have tried to breed thoroughbred horses in 2005 but had failed due to lack of qualified veterinary staff specialized in horse breeding[3].

Premadasa Riding School is also another famous equestrian sports establishment in Sri Lanka. They have number of horses in their inventory, they are mainly Indian thoroughbreds. Though they use the term Sri Lankan thoroughbreds[4]for some samples the breed has not been registered in the general stud book for horse breeds in the world.

The Mount police division mainly participate and hold dominance in equestrian activities in all the major national ceremonies, they are mainly the experts on horse handling and horse training, and to a certain extent have the know how to deal with horse health. They have done horse breeding during early period but not in resent past. They mainly import castrated horses rather than breeding them for their purpose.

CHAPTER 4

DATA

USING DELFT PONIES TO DEVELOP A NATIVE THOROUGHBRED HORSE AND PROBLEMS FACED IN BREEDING HORSES IN SRI LANKA

Selecting a location for breeding. Before selection of the sample it has to be confirmed that the type of the ponies (Hot, Warm, Cold blood) and the quality of the genus. This will be a main concern before starting the project.

It is very much important to locate a site closer to the Peradeniya since there are no any other veterinary experts on horse breeding within the country
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other than the experts at the Veterinary Faculty of Peradeniya. Space of the location should be sufficient enough to cater more than 20 horses with an area for their activities. This facility should have sufficient number of stables for the horses.

Selection and transporting of Delft ponies. Authority should be obtained from the Wild life Conservation to capture wild ponies from Delft Island. Veterinary expertise should be taken when selecting of ponies at Delft with the help of the Veterinary Faculty of Peradeniya to select healthy and adequately grown samples. It will be ideal to obtain 5 or more mares as well as stallions.

Transporting the animals from the island to the mainland will need expertise support and they will be needed to be transport by road to the location taking time and giving adequate rest to the animals. Special protection will be needed to take care of their health during transportation.

Breeding methods. There are several methods used to breed horses in the world and each technique has advantages and disadvantages. They are as follows

Normal mating of the stallion and the mares. This will be the easiest method of reproduction of horses. All the stables in Sri Lanka use this method since it doesn't need any special tools, techniques or training. But this method has disadvantages such as requirement of a healthy good quality stallion and accidents during contact (kicking by the mare).

Artificial insemination. This is known to be as a much more secure method. It will emit the risk of having reproduction disabilities of the stallion. And this will allow transferring quality genes from a required type of a stallion.

Embryo Transfer. Flushing out the mare's fertilized embryo a few days after the insemination, and transferring to a substitute mare. This method will require qualified veterinary surgeons with the technology, proper equipments and a proper facility.

Egg Transfer. Egg is removed from the mare and transferred in to a second mare, which is then bred. This method will also require qualified veterinary surgeons with the technology, proper equipments and a proper facility.

Breeding techniques. There are mainly three techniques used during breeding this will enable to transfer required qualities of a particular horse to the new generations.

Inbreeding. It is a way of mating two genetically related animals (horse). This can result the offspring to be effected with unwanted (deleterious) traits.

Linebreeding. It is a way of inbreeding, to fix desirable traits of one particular animal (horse) to the next generation.

Outcrossing. This technique is used to introduce unrelated genetics in to a breeding line.

Selection of the Breeding Method and the technique. Since it is much costly to buy a thoroughbred stallion and considering the risk of failing, the normal mating will not be considered. The Embryo Transfer and Egg Transfer

methods require the technology and the qualified veterinary surgeons; therefore Artificial insemination method will be selected to fertilize the mares. E: No 35 JC & SCDelft pic2000px-Intense_inbreeding_-_Continuous_sire_to_daughter_mating. svg. png

Figure 1 The requirement of developing a new thoroughbred with the genetic traits of the delft ponies will require using Linebreeding technique. The requirement of transferring genetics of the delft ponies with a thoroughbred will be full filled by using this technique, it will transfer genetic traits of delft ponies and thoroughbred to the next generation.

The basic concept of the linebreeding is using high quality desirable traits in animal (thoroughbred) (S) to its daughter (D) and again to her daughter (D1) and so on (Figure 1). This will increase the presence of the genes of the father in the offspring. At the level of the fourth generation offspring will carry more than 93% of genes of the father (Table 1). Further linebreeding will create a “near clone” of a desirable individual.

Table

This technique is commonly used by the horse breeders to rare high quality horses by mixing the genes. Also this method will allow having a clear trace by the comparison with the parents about genes transfer rate and the improvement of the quality of the offspring.

Hence it is recommended to use linebreeding with artificial insemination for the beginning of the breeding. Veterinary surgeon Dr Somarathne highlighted the advantages of using linebreeding with artificial insemination

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which is very much cost effective and much more reliable method for a country like ours.

Breeding the mares. Horse semen[5] is available in the international market. America, Arabia, Australia and United Kingdom are the main and most reliable and good quality horse semen producers to the international market. Horse semen can be selected by checking quality of the pedigree of the donor stallion.

Figure 2 The most important thing which will need the veterinary expertise support to carry out will be the artificial insemination. During this process the sperms of a thoroughbred horse will be placed in to a reproductive tract of a Delft pony. The knowledge of the oestrous cycle (Figure 2) of the mare will indicate when the mare is ready for breeding. Normally ovulate every 3 weeks during the natural breeding season. To do the artificial insemination successfully one must identify the fertilizing period of the mare accurately.

Picture 5 This cycle will be control by the hormones released by the pituitary glands. Mares will start its oestrous cycle at the puberty, which is normally 1½ years from birth. After that they are suitable for use for the reproduction. During the artificial insemination process (Picture 5) more than one mare has to be bred to increase the next generation live stock. Artificial insemination will be done by a veterinary surgeon and all the required veterinary procedures will be adopted. E: No 35 JC & SCDelft picai. jpg

The Pregnancy. This will be the period that the foetus[6] is developing within the mare's uterus. Special requirement to care for the mare during this period is essential specially giving the proper nutrition. The period from the <https://assignbuster.com/history-and-overview-of-the-horse-breeds-history-essay/>

fertilization to birth is known as gestation period. This period is normally 333 to 336 days (11 calendar months) for a mare but it may vary for thoroughbreds as 310 to 374 days. Also environmental factors and nutrition of the foetus may change the length of the pregnancy.

Figure 3 The pregnant mare will have to be checked periodically by a veterinary surgeon to assess and to check the proper growth of the foetus. This will enable to identify disorders of the foetus if any. The development of the foetus during the pregnancy is given in the following diagram (Table 2). It elaborates how the foetuses develop inside the womb with the time up to the birth.

Day of Pregnancy

Primary Development

1

24 hours after conception, the conceptus, i. e. the combination of egg and sperm, start to divide into two cells. This cell division continues into 4, 16, 32, 64, ect.

6

The dividing cell bundle arrives in the uterus and at the same time breaks open its outer layer and ‘hatches’

18

Fetus now takes on ‘C’ shape. Gut tube developing and umbilical cord is identifiable

23

All the basic body structures, neural tube (central nervous system and brain), pharynx, gut tube and major muscle block are present in a basic form

26

Forelimb bud and eye now evident

40

Nostrils seen, ears forming, all limbs are present, and elbow and stifle joints are discernible

45

External genitalia present

63

Eyelids fused while eye development continues. Sole and frog areas of hoof evident

120

Chin hair and eyelashes growing

180

Tail and mane present

320- 355

Birth of a well developed foal that is capable of walking 20 minutes after birth

Table

Birth of the foal. Before the foaling process the mare will be separated from the other ponies in order to ensure the safety of the foal[7]. Delivery will be encouraged naturally under supervision of a veterinary surgeon. A healthy foal can walk within 20 minutes after the birth and it has to be cared and kept separate from the other ponies for safety until it grows 4 weeks. After 4 weeks it will start to eat hay, grass and grain. After 10 weeks it needs more nutrition than the mare's milk.

When the foal completes one year it is called as a Yearling[8]and sometimes called as colt for male horses and filly for female horses who are from one to four years of age. Though the filly is suitable for use for the reproduction after 1½ years, due to abnormalities that can occur in mares animals at the age of four or more will be used for the reproduction in upgrading process.

This same process has to be done to few other ponies to get maximum number of ½ bred horses to be used for the next generation reproduction. Mainly the fillies have to be taken care of for the next generation reproduction and they have to be kept away from other stallions to avoid unnecessary pregnancies. Continuing this process for three generations will allow to rare 7/8 breed as given in the figure 4. The fourth generation of breeding will be a thoroughbred with Delft pony genes.

The total of average reproduction time and the time the fillies utilized for the next generation reproduction is given in the following diagram (Table 3).

Time

Reproduction process

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1 Year 1 Month

To transfer from fillies to mare

4 Years

Total

5 Years 1 Month

Table

Problems faced. The main problem that can face is the time duration that will take place for the linebreeding with artificial insemination. As per the Table 3, it will take more than 5 years to complete the first step up to the half bred horse. To achieve 7/8 bred stage will take 15 years and the thoroughbred more than 20 years.

Problems may arise during obtaining authority for such a project from the relevant authorities since the wild ponies belong to the wild life department and to obtain and transport them for breeding has to be done with their authority. And the breeding process will be required to have the patronage of a permanent or a frequent visiting veterinary surgeon which will incur a very high cost.

Unavailability of the qualified horse handlers in the country will be another serious problem. To care off more than 10-15 horses will require a staff of nearly 5 men who are trained on the subject.

Although Artificial insemination is a proven technique in the world for breeding, this method will be used for the first time in the country for this particular animal. There are no references on artificial insemination for horse breeding in the country to refer during this project.

½ Bred

¾ Bred

7/8 Bred

Figure 4

CHAPTER 5

ANALYSIS

Since the only major project which was done in 80's was destroyed completely and not any private horse breeder have done this project properly according to the scientific requirements, there are no proof to be shown as the project can be really succeed.

According to the horse breeding manuals[9]and as per the veterinary experts it is possible to develop a new breed using Delft pony and thoroughbred horse. The mixing of genes with a thoroughbred will increase the height of the new offspring and by the fourth generation they will grow beyond 14. 5 Hands and will changed the category from pony to horse.

The whole programme will be dependent on the blood type of the Delft pony. If it carry cold blood, the expectation on developing a thoroughbred will be much more difficult, time consuming and more costly. But as per the

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expertise such as Mr Ajith Chitty confirm that they do not belong to cold blood type (No any scientific proof).

As per the table 3 it will take more than 20 years to complete four reproduction steps to achieve the thoroughbred horse with Delft pony genes. And since it is done through line breeding, during the third and fourth breeding it will not be practical to find out semen (sperms) of same donor stallion. But during third and fourth breeding using another stallion that is related to the first donor stallion will help out to increase the gene pool of the offspring.

As the equestrian activities are very limited among the Sri Lankans the sample taken for the questionnaire was very narrow, but the qualifications, experience and the knowledge on the subject of the sample taken was very high. According to the questionnaire (Annex A) distributed among the sample the following results were obtained.

Table

Table

Table

CHAPTER 6

CONCLUSION

Since there are no any past records of a project of this nature, this proje