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Ponies and their socio-economic importance in North-East India: An overview

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Abstract

In India, six different breeds of horses are available. Out of that Manipuri and Bhutia are the only breeds of equines which are found in the North-Eastern region of India. They are having light head with a straight profile, set on a well-formed neck, well muscled shoulders, chest and loin. Manipuri ponies are distributed in small number throughout the home tract of Manipur. Bhutia breed is a breed of small mountain horse from Sikkim distributed in state of Sikkim, northern parts and in the district of Darjeeling, Arunachal Pradesh. For centuries the Manipuri breed has been playing an important crucial role within the society of Manipuri by its socio-cultural association. It is rightly regarded as original polo pony as the modern polo is derived from the traditional Sagol Kangjei of Manipur. Due to urbanization, there is lack of grazing land and the natural habitat become destroyed; which is one of key factor for the declining the pony population. Scientific feeding and management of ponies will help to save the animals from extinct.

Keywords: ponies, North-East India, habitat, population, conservation

Introduction

According to NBAGR ^[1], there are seven different breeds of horses in India, viz., Marwari, Kathiawari, Manipuri, Zanskari, Bhutia, Spiti and Kachchhi-Sindhi. These breeds are distinct for their adaptation to different agro climatic regions but also due to their unique performance. All the four Indian breeds except Marwari Kathiawari and Kachchhi-Sindhi are called ponies for their small size ^[2]. The Manipuri (INDIA_HORSE_1200_MANIPURI_07003) and Bhutia (INDIA_HORSE_2223_BHUTIA_07005) are the only breeds of equines which are found in the North-Eastern region of India. The Indian Council of Agricultural Research (ICAR) has regarded Manipuri pony breed as “one of the purest and prestigious breed of equines in India” ^[3].

In a genetic based study on analysis of microsatellite DNA, conducted among the different breeds of equines in the year 2007, it was found that Manipuri pony and other Indian pony breeds (Spiti, Bhutia and Zanskari) are genetically close and are distant genetically from the Marwari breed. None of the breeds (Manipuri, Spiti, Bhutia and Zanskari) were found to be closely associated genetically with the thoroughbred. The physical differences among the breeds were attributed to different ancestors. The Marwari horse is closely associated with the Arabian breeds, whereas the four other breeds (Manipuri, Spiti, Bhutia and Zanskari) are thought to have been descended from the Tibetan pony ^[3].

The Manipuri pony is known for its fastness, intelligence, surefooted moves and high endurance and is referred to as the only living original polo pony ^[4]. Out of various Indian breeds of horse, the Manipuri Pony has been bred over centuries in Manipur of North-East India and is an indissoluble part of the history of the erstwhile kingdom of Manipur. They were referred and mentioned in most of the general literatures on equines and the breed is believed to be the descendant of Asian wild horses possibly developed either from the Tibetan Pony or a cross between the Mongolian wild horse and the Arabian thorough breed. The state is the birth place of the game of Polo which is also known as *Sagol Kangjei* in local dialect (literally translated into English as hockey on horseback) ^[2]. The state government of Manipur has declared *Sagol Kangjei* as state game. Manipuri ponies were used as cavalry horses throughout the 17th and 18th centuries ^[3]. It has close association with the socio-economic life of the people of hilly region through travel, transport and hunting. Some of the physical characteristics of Manipuri ponies are that they have light head with a straight profile, set on a

well-formed neck, well muscled shoulders, chest, loin. Sloping croups, strong closed hooves (shoeing is unknown for this in Manipur) with sturdy legs and well-proportionate to the body enables this breed in excelling games and other activities that requires adequate stamina and endurance. The Manipuris grew with the ponies and is reflected with the socio-cultural through well defined history and creation of mankind, where this breed played a role defining emotional and spiritual passage between a man and a horse since time immemorial. Manipuri ponies generally stand 11 to 13 hands

(1 hand = 4 inches=10cm, 44 to 52 inches, 112 to 132 cm) in height ^[5]. The body measurements of Manipuri pony are depicted in Table 1. The breed is available in 14 different colours viz. bay, chestnut, grey, mora white, leiphon white, sinai white, stocking, liver chestnut, roan light gray, reddish brown and dark bay ^[6]. The adult body weight generally ranges between 441 to 450 pounds (200.034 kg to 204.117 kg) which is 584 pounds lighter than the average horse breed ^[7]. All the horses are very quick and manoeuvrable.

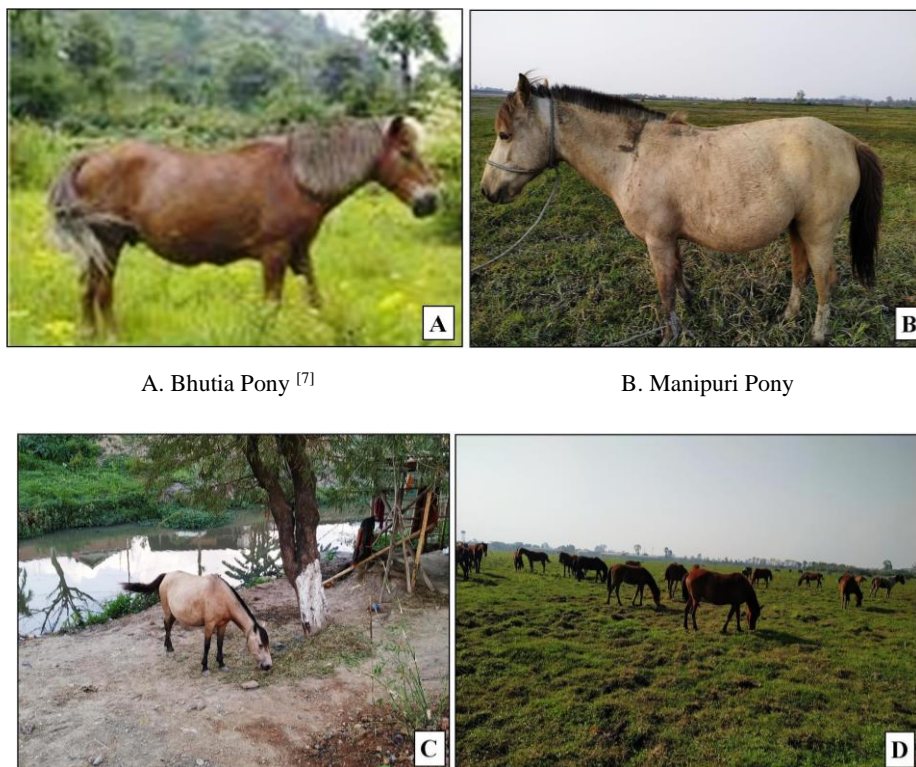
Table 1: Body measurements of Manipuri pony ^[8]

Trait	Male (cm)	Female (cm)	Overall (cm)
Face length	48.33 ± 0.33	49.00 ± 0.38	48.46 ± 1.04
Ear length	15.54 ± 0.16	15.43 ± 0.19	15.47 ± 1.26
Neck length	51.98 ± 0.44	51.97 ± 0.52	51.86 ± 2.82
Height at wither	129.69 ± 0.79	128.267 ± 0.59	128.85 ± 3.25
Body length	131 ± 0.79	129.8 ± 0.93	130.5
Chest length	145.95 ± 0.97	143 ± 1.15	143.62
Tail length	41.00 ± 0.43	43.17 ± 0.51	41.65

The Bhutia breed is a breed of small mountain horse from Sikkim distributed in state of Sikkim, northern parts and in the district of Darjeeling and Arunachal Pradesh. The breed was found genetically similar to other pony breeds found in India and also have similarities with Mongolian and Tibetan pony/ horse breeds. The breed is locally known as Bhotia, Bhutani, Bhutan Pony, Bhote ghoda in Sikkim. As mentioned in the Wikipedia, they have large head, small eyes and ears, straight shoulder, deep chest, strong legs, short and muscular neck and have powerful hindquarters. The neck is short and thick and their jaw is pronounced. Bhutia horse has straight profile and low withers, sloping quarters, deep chest and straight shoulders. The tail is well set and short. Strong legs

are main feature of Bhutia horses which are coarse & hairy. There hooves are open at the heels. The usual coat colours of Bhutia breed is bay and grey. Bhutia horses are mainly used for riding and for carrying loads. The male animal stands 145 cm in height and mares are 125 cm in height and body weight ranges between 260-345 kgs.

The temperament of Bhutia horses are very good, they remain quite normally and no noises were made such. The said breed have the will to do hard work and they are very much adapted with the cold climate of mountains and rough lands or terrain, however it finds difficult for them to endure temperature and warmth of flats.



A. Bhutia Pony ^[7]

B. Manipuri Pony

C & D. Rearing of Manipuri Ponies

Fig 1: Ponies of North-Eastern region of India

Habitat and Geographical distribution

Among the Indian breeds, the Manipuri Pony has been bred over centuries in Manipur in North-East India and is an inseparable part of the history of the erstwhile kingdom of Manipur [3]. They were referred and mentioned in most of the general literatures on equines and the breed is believed to be the descendant of Asian wild horses possibly developed either from the Tibetan Pony or a cross between the Mongolian wild horse and the Arabian thorough breed. The state is the birth place of the game of Polo which is also known as *Sagol Kangjei* in local dialect (literally translated into English as hockey on horseback). The state government of Manipur has declared *Sagol Kangjei* as state game. Manipuri ponies were used since 17th and 18th centuries. It has close association with the socio-economic life of the people of hilly region through travel, transport and hunting.

Manipuri ponies are generally distributed in small number throughout the home tract in different pockets specially, the plain areas of Manipur in the districts of Imphal East, Imphal West, Bishnupur, Thoubal, but more dense in Imphal West they are also found in the hill districts of the state where the altitude ranges from 700-800 meters above sea level and latitudes being 23°N to 25.68°N and longitudes 93.03°E to 94.78°E. Manipur is a state in North-Eastern India covering an area of 22,327 km², bounded by Nagaland to the north, Mizoram to the south, and Assam to the west, Myanmar lies to its east. The people of Manipur include Meitei, Pangal, Kuki and Naga communities.

The state of Manipur, India had a abundance of open grazing fields and lakes. Even in the central Imphal area, several dried lakes like Lamphelpat, Takyelpat and Porompat were bountiful with healthy ponies. However, due to urbanization and their habitation having been forfeited by the encroaching human hordes, the ponies are fighting the last ditch for their survival in the lanes and streets of the state. Now, the maimed and diseased ponies at the street corners are not only a pitiable sight but also a traffic and health hazard [3].

The breed is important and critical for the state as well as part of the national gene pool. (Govt. of Manipur, 2006). As per livestock census 2007, the population of the Manipuri pony has declined to 1,218 from 1,893 as recorded in 2003 [2]. The district wise numbers of horse and ponies as per livestock census 2007 published by the Government of Manipur are 115 in Bishnupur, 280 in Thoubal, 302 in Imphal West, 35 in Imphal East, 54 in Ukhrul, 54 in Tamenglong, 85 in Churachandpur, 229 in Senapati, and 54 in Chandel district respectively. And a total of 13 ponies at Tingkai pony breeding farm are also recorded. The number shows a negative growth of -35.66% (percentages of deviation) during 2003 to 2007 and National Bureau of Animal Genetic Resources considered Manipuri pony as threatened breed. In 19th livestock census 2012, the total number of ponies recorded in Manipur was 1042 (male 544 and female 498) in rural areas and a total of 59 (male 30 and 29 female) in urban areas [9] and National Bureau of Animal Genetic Resources considered Manipuri pony as threatened breed [10].

Another breed of North-Eastern region of India is Bhutia which is distributed at Himalayan region of Nepal, Darjeeling & Sikkim. It was said that, Bhutia horses came in existence by intercrossing of local horses and ponies. Indian country bred ponies are name given to these breed as Bhutia, Spiti and Tibetan breeds are result of cross breeding [11]. In 19th livestock census 2012, the total number of ponies in Sikkim was 511 (male 284 and female 227) in rural areas and not a

single horse was recorded in urban areas.

Management system

The pony breeders of Manipur rear this animal in semi-intensive till today. Traditionally, ponies are left in the open herds and are mostly found to be grazing at marshy areas such as lakes or fields where there are fresh grasses are available. When services are in demand, say for polo, *umang lai haraoba* (festival of forest deity), equestrian etc. ponies which are from around three to ten years of age are caught from the lake and open range and kept in the paddock of farm or stable of homesteads and sets free afterwards. When in the stable, they are being fed with indigenous grasses as well as concentrate feeds like rice brand, pulses, oil cakes etc. The ponies which are allowed to graze in the field are found healthier than the ponies kept confined in the stable. Till today, Manipuri ponies are living in the free range most of their life.

Due to urbanization, there is lack of grazing land and the natural habitat become destroyed in the valley Districts; which is one of key factor for the declining the pony population in the state. Reduction of grazing areas deprived the ponies nutritionally in terms of quality and quantity. Therefore, fulfillment of nutritional requirement of the animals is the need of hour. Some of the action already taken up by the Govt. of Manipur for scientific feeding of Manipuri ponies such as,

1. Strict enforcement of Cattle Trespass Act, 1871 for keeping the ponies off the roads.
2. Reserved/ preserved are to be declared in each district if there is availability of wastelands and the water sources near the foothills or any other areas around/ adjacent to the breeding tract for the purpose of shelter, fodder production and grazing area for the ponies.
3. The declared Reserved/ preserved area must be given to the local communities/ bodies, pony owners / lovers, clubs etc. under the supervision of the board to look after for maintenance. The Reserved/ preserved area may also be developed to attract the tourists.
4. Development/formulation of requirement and feeding schedule of feed and fodder for different categories of ponies are yet to be processed.
5. Initiation of pasture development programs where there is availability of common grazing ground and in places wherever feasible.
6. Development of reserved/preserved are for catering of tourism and recreational spots.

The Bhutia horses eats sparingly. They are very much economical. No such extra care is required from the owners. As mention in the Wikipedia, no such types of major health conditions or issues are known to be treated for this horse breed. Generally good quality grass and hay were used to feed the horses, legume hays including alfalfa, clover, and peanut were the main feed. They can take 5-15 gallons of water a day depending on activity level and temperature.

For housing, suitable land which has barn or shed and open space are selected in where clean air and water facility are available. During winters, the horses are kept in shed or horse blanket is given to protect them from cold weather and in summers, they are kept in shade. The lands are covered by fences.

Breeding of ponies are mainly done in mid-late spring and when male horse is at least 4 years old and female horse is 5-6

years old. After successful breeding, the gestation period remains for an average of 340 days and they give birth to 1 foal. During gestation, the mare gains its weight up to 9-12% of her actual body weight. During pregnancy high quality alfalfa or grass is given to the mare. To overcome the deficiency of calcium in mare's body, the salt-calcium-phosphorus mix is supplemented in the feed.

Productive and Reproductive performances

As described by Thongbam ^[12]; Manipuri ponies live and roam in small semi-feral bands, feed all over valley and swamps and recreate climbing over the crest of adjoining hillocks. The dominant male (fathering beast) is the lord of the band and brooks no indiscipline in his domain in matters of pony social behaviour developed through the ages. He is the controller of the harem family band and juvenile male pony that is un-submissive and tries to mate within the family harem is immediately and forever expelled from the band and parental care. An expelled male pony may doom to bachelor gangs for three to four years, led by an experienced older male or initiate a new family with a chosen mare. A member of a bachelor gang or a dominating male of another family group can challenge a male leader of a different family to claim his dominance over his sexually active mares. The confrontation is brutal yet dignified and sportive.

When the dominant male of a family group is challenged by another male, they look and approach each other. The possessive parents are in many ways partial to the young females of the family. Generally, the father stallion never allows his harem's adult mare to have physical contact with any other stallion than himself. But both the parents are rather permissive to their daughter mare in attracting a sire from other band families of her own choice. This observed social character saves the pony from possible dangers of inbreeding within the family. Inbreeding leads to expression of genetic diseases, unhealthy offsprings, constriction of population and ultimate extinction. Inbreeding can happen within the family population in captivity. The young filly after copulation with her chosen sire may stay further within the father's harem or can opt to join a new harem or start a new family with her husband. She is allowed to return and rejoin her parent family if she finds it uncomfortable in the new family setup. This is one of the reasons for many missing mares returning home after days of absence. As fillies reached puberty, inspite of all sorts of policing by the fathering beast, the young fillies do get impregnated by lesser males of the herd while socializing within the herd. On the other hand young fillies may not be necessarily by the best studs when she is in search outside her own herd. As such the first pregnancy may not deliver a healthy or high quality offspring. A conscious breeder isolates the young filly transforming into a mare on the onset of puberty copulates with a random steed in the wild during oestrus period. Accidentally mated mares with random male in semi-feral herds have a higher probability of miscarriage consequent upon forced second and third penetration by more powerful stallions. Therefore the conscious breeder goes for controlled insemination in captivity or selective breeding with good male choice. A serious breeder planning to harvest a good offspring isolates his mare and tethers it, at least three months during the mating season and brings in the donor stallion wherever suitable. If the suitable stud is in a feral state the breeder takes the mare to the stud in his habitat.

The selected parents of three years of age are allowed to copulate for two to three days until the conception is

confirmed. When a chosen mare is exposed to a new feral group, the dominant stallion is observed to detect her presence immediately and lay claim. Once conception is confirmed, extreme care is taken that the mare does not abort due to all sorts of physical stress including forced copulation by stallions. During the first three months of pregnancy, the mare is not subjected to excessive riding stress. As the pregnancy progresses, signs of hardness on both sides of the neck, beginning from the withers, progresses towards the head. After ten months of pregnancy, the colt is born ^[13].

Castration was practised at the age of two and a half to three years, and was believed to make the pony more obedient, stronger in will and more suitable for polo.

Sired dams usually give birth to foals in the spring season between March and April, after ten and half months of gestation. These new foals love to sleep a lot as one sees them basking in the sun like a dead animal along the fields. Young foals are often subjected to mortal danger from jealous stallions as mother mare becomes oestrus within seven to eleven days after delivery. On dog pack attacks, the mares encircle the foal and he males charge the predators in which such defensive strategies are not always successful in a small semi-feral band ^[12].

A colt or filly on attaining the age of two to two and half years shed their milk teeth being replaced by permanent teeth. Breeders cautiously observe this development as the ideal breaking of the ponies is done in knee deep water or an experienced breaker may do it in open ground open.

Socio-economic importance

Manipuri Pony is one of the recognized equine breeds of India which is considered as critically important gene pool for the state as well as for the country (Govt of Manipur). For centuries the breed has been playing an important crucial role within the society of Manipuri by its socio-cultural association. Its antecedents however are not clear; but one source stated that Tibetan ponies as its ancestors while another source stated its origin to be a cross between Mongolian wild horse & Arabian. Though different people having different view but all agreed that it was derived from ancient stock. In certain books it was referred to as Mangal-sa or Mongolian animal. As per Manipuri mythology, the Manipuri pony was regarded to have descended from "Samadon Ayangba" the winged steed of Lord Margjing, one of the guardian deities of Manipur.

The Manipuri pony was known for its unique stamina, agility, intelligence, speed, manoeuvrability and great adaptability to harsh geo climatic condition. It is rightly regarded as original polo pony as the modern polo is derived from the traditional Sagol Kangjei of Manipur (Vety & A.H. report, Govt. of Manipur, 2016).

Besides traditional events of "Lai haraoba" and being used in the sport like Polo & race, they were also utilised as mounts for Manipur cavalry which was feared throughout upper Burma during 17th century.

In the past, polo games and horse races were regularly organized at Hapta Kangjeibung and other local polo ground under the Royal patronage as a result many pony owners were enthusiastic of breeding good ponies for participation in the polo game and races. Nowadays only few grounds are available for playing Polo in the State. So, there is imperative need for protection of polo playing fields and race courses in the state so that the enthusiasm of pony rearing and breeding as before is reestablished.

Now, it's a time for immediate implementation of the conservation strategies through formulation of a holistic policy on conservation and development of the Manipur Pony. Initiative must be taken up for preservation of at least one polo ground in each district which may be developed with adequate infrastructures.

Building of a polo ground in the village level should be entrusted to local communities and polo clubs. The state may initiate to develop a race course in Imphal City only for the purpose of popularization of Manipuri Pony, with careful monitoring by the Board so that it may not use in the wrong way. Such areas may also be used for pony related events like polo, equestrian games etc.

Conservation strategies

The State Government of Manipur has already declared Manipuri Pony as AN vulnerable Breed within the year, 2013. Therefore, the conservation of Manipuri Pony would force not solely the policy and programmes of the Govt. however additionally the collective efforts of all stake holders like NGOs, Pony lovers, house owners and subjects of state of Manipur towards the goal of conservation of this precious breed of pony within the state. In sight of the higher than, a draft policy on Manipuri Pony Conservation and development was written. The Manipuri pony conservation and development policy, 2016 was approved by Government of Manipur; Secretariat Veterinary and husbandry Department, Manipur. Food and Agriculture Organization publication on World Watch List on animal Diversity has listed the breed as an vulnerable Animal. Wet lands that area unit the natural surroundings of Manipuri Pony area unit disappearing from the state thanks to fast urbanization and encroachment, lack of polo ground/polo enjoying areas within the rural, restriction of use of ponies except within the game of polo, uncontrolled diseases also the exodus of ponies to the neighboring states and countries area unit a number of the attributing factors for the declination of the population of the horse within the state. Now a day's solely few grounds area unit obtainable for enjoying Polo within the State. Therefore, there's pressing would like for preservation of polo enjoying fields and courses within the state in order that the passion of pony rearing and breeding as before area unit back once more and also the below mentioned action arrange is also obsessed. Now, the case concerns immediate implementation of the conservation programmes through formulation of a holistic policy on conservation and development of the Manipur Pony. Initiative should be obsessed for preservation of a minimum of one polo ground in every district which can be developed with adequate infrastructures. Mapal Kangjeibung /Imphal Polo ground is also preserved for yearly events of polo at the state level further as International level. The management of polo ground within the village level ought to be entrusted to native communities and polo clubs. The state could initiate to develop a race course in Imphal town just for the aim of popularization of Manipuri Pony, with careful observance by the board in order that it should not use within the wrong approach. Such areas might also be used for pony connected events like polo, equestrian games etc. True to breed multiplication of the Manipuri Pony is very important at this juncture. This might be achieved through the institution of preserves as free ancient vogue commons for natural breeding and on the strengths of native custom and apply further because the

establishment/ strengthening of the Manipuri Pony Farms wherever all breeding knowledge area unit recorded. It will offer a holistic approach that acknowledges respects and strengthens the autochthonal mental object of keeping the animal. It is pertinent to say that the most utility of this animal nowadays is for the sport of Polo and most of the horse house owners practiced castration/gelding of their ponies at early age, in order that their ponies area unit simply controlled throughout the sport. Within the method, sensible quality pony, possessing distinctive genes chargeable for sensible performance in Polo game, has been withdrawn or off from the population. The apple of victimization geldings in polo ought to be reconsidered and also the use of mares as practiced within the current polo enjoying countries might also be introduced and inspired within the state.

To increase the population of Manipuri ponies, the state govt. of Manipur gave more emphasis on some policies viz:

1. For breeding purposes the stallions and mares having all the true characteristics/traits are to be selected.
2. Establishment and development of a common preserve/reserve area for natural breeding in every district of the state with participation of local community.
3. Establishment of scientific breeding programmes to strengthen the farm of true to breed by the state Government where scientific records were kept.
4. Framing of the relevant laws to prevent early castration of stallions.
5. Establishment of appropriate laws for regulation of export of Manipuri Ponies from the State to other States and countries
6. Strict regulation on banning of cross breeding of Manipuri Ponies with the other breed of horses imported from outside the state.
7. Facilitation of cryo-preservation of semen of good pedigree stallions under available facilities in the state for ex situ conservation.

At present, ponies were kept mainly for playing game of polo and other ritual activities. Pony owners are not earning any income from rearing of pony which is one of the most important factors for declination of pony population in the state. Now it is desirable that ponies being utilized for economic activities and creating employment opportunities for many pony owners which will ultimately help in the conservation of the breed. Points to be considered are as follows:

1. Introduction of the pony based employment schemes the Government level which may lead to pursue the banks to sponsor schemes for economic utilization of Manipuri Pony in eco-tourism activities.
2. Re-establishment of Mounted Police in Manipur Police, mainly this will help to control crowds and traffic in the congested areas in and around the different parts of the state.
3. Establishment of a cavalry unit as body guard of Governor of the state which may be used as an escort of Governor in Republic Day functions and at the start of state Assembly for Governors speech like that of the Presidential body guard of Union Government.
4. Popularization of the horse riding and other related activities by imparting training programmes to the interested young boys and girls and amongst the youths of the state by introducing pony/horse riding school.
5. Carrying out an extensive research work at appropriate

centre for scientific utilization of Manipuri Pony.

6. Introduction of the ponies at the tourist spots like Sendra, waterfalls of Leimaram, Santhel eco tourist park of Andro and other tourist spots for a pony ride around the centre for the visitors as well as photo session on payment basis as done in famous sea beaches of the country.

As most of Pony owners of the state belongs to landless and are generally dependent on agriculture and allied activities as source of the work and income. This led them unable to invest for the maintenance of the Pony and let the ponies to wander on the road, market places and garbage dumping areas and feed on the left over of the hotels, markets, and garbage and plastic bags thereby damaging their health. Some of the action plan taken up by the state government in this regard is as follows;

1. Organizing awareness programmes on scientific management practices.
2. Providing incentives and maintenance allowances i.e. feed ingredients, medicines etc. to the Polo club/ individual farmer by organising health camps.
3. Organizing regular pony shows in order to encourage to the pony owners for breeding ponies of good ancestors/progeny.

Conclusion

The North Eastern states in addition to its beautiful landscape diverse flora and fauna and salubrious climatic condition. Manipur is well known as the birth place of game of Polo. To attract both domestic and international tourist there is requirement of organizing polo tournament/festival, equestrian sports etc. as eco tourism activities. For that as a part of eco-tourism activity; regular organization of Polo Festival, Pony shows, Polo tournaments are required. Strategic plan and time bound work should be scheduled for development of Sagol Kangjei & Polo. The state should develop Imphal as an International Polo city as the state being the birth place of Polo. This will attract both domestic and foreign tourists. Introducing other activities of pony other than the game of polo for the tourists such as equestrian games, arambai etc. as well as scientific feeding and management of ponies will help to save the population from extinct.

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