

CHAPTER-V

ANIMAL HUSBANDRY

Cattle wealth is a sine qua non of human society. Human race since its origin has always been dependent upon this wealth. Our mythological records bear testimony to the fact that even the Gods and Goddesses have had a close affinity with the livestock kingdom.

The grip, which the livestock wealth holds over the present day developing economy and its socio-economic order, needs hardly any stress. Truly speaking livestock wealth is one of the most productive capital which an agriculturist can have. In an agro-based economy like that of ours its contribution cannot be lost sight of under any stretch of imagination.

Under the present day package of scientific breeding this enterprise of animal keeping in Haryana has now transformed itself into a systematic industry. Today it is a commercially viable agro-based industry promising regular dividends to the individual breeder and multi-benefits to the society at large.

Haryana may appear to be a small state but the spectacular progress it has so quickly made is indeed remarkable. In the field of animal husbandry it has no parallel. Here the livestock keeping has a special role, as animal keeping has been a way of life in Haryana and so this state has the privilege of being known as the 'Livestock Mint of India'.

Though the productive capacity of livestock is a factor profoundly influenced by the law of inheritance, breed characteristics and the genes behavior etc. yet apart from these influences, geological factors, climatic conditions, the nature of soil, its vegetation and the environmental conditions also play a significant role in designing the quality of livestock. The top quality animal is, therefore, a product of a combination of factors. Really speaking livestock wealth is a living gold-a fountainhead of rural prosperity. Where the livestock potential is

rich and productive, national health improves, land becomes fertile, children grow healthy, rural economy develops and the nation blooms with prosperity.

It is interesting to note that all the best breeds of Indian bovines are located within the 'Dry Zone of India.' Of these, dual-purpose 'Haryana' breed cattle and the 'Murrah' breed dairy buffaloes are the world renowned stocks found within the borders of Haryana, forming 'Haryana-Murrah Breed Tract' covering Rohtak, Jind, parts of Karnal, Kaithal, Hisar, Bhiwani, and Gurgaon districts. The 'tract' is a geographical region bounded by the Yamuna Plain on the East, the Saraswati-Markanda Plain on the North, the Ghaggar plain on the West, the sand dunes dominated 'Bagar' on the South-West and the sandy undulating plain on the South and South-East. The climatic conditions within the tract are semi-dry as it lies within the wetter North-East and dry South-East.

Haryana, in the field of livestock kingdom, has been suitably placed. It possesses the best livestock breeds of India. It has a distinct potential of producing promising livestock wealth. Here the latest scientific breeding, the health cover facilities and the quality control measure have now reached at the door of the breeder. Known as the Home Tract of the world famous breeds of Haryana cows and Murrah buffaloes, it holds an important position on the animal husbandry map of India. The old tradition of cattle breeding that has travelled down to Haryana breeders from their ancestors is another boon to inspire the breeders here to design and produce the exquisite type of quality animals. It is because of this special aptitude that Haryana breed of cattle and Murrah breed of buffaloes from this tract have enjoyed the exclusive privilege of developing livestock wealth of the country. Animals in large number from this tract have been picked up and taken to various parts of the country to serve as a foundation stock for improving the cattle and buffalo breeds of those areas. Haryana state is thus functioning virtually as the 'Livestock Mint of India' now.

Murrah breed of buffaloes and Haryana cattle from this state have even gone to countries like Vietnam, Sri Lanka, Phillipines, Nepal etc. This livestock mint of India is now serving as the only export market to pick and choose top animals for presenting gifts. Purchase of Murrah buffaloes as an Indian gift to the Sri Lanka government was effected by the government of India from Haryana.

In Haryana the period from 1966 onward is an era of dynamic progress. During this period animal husbandry has made rapid stride in various fields and has assumed a marked role in our present day developing economy. It has now emerged out as an enterprise solving not only problems of national health but also serving as an effective tool of providing livelihood to millions of unemployed and under-employed workers. To the farming community its dividends are now innumerable.

At the time of formation of Haryana animal husbandry fabric in the state was very thin having only 346 veterinary institutions with Government. Livestock Farm, Hisar serving as a Breeding-Base and a Biological Products Section producing only a few vaccines at Hisar. The livestock population of the state which was 55.28 lakh in 1966, new level of 69.05 lakh in 1977 and touched the high level of 110.42 lakh in 1997 which gave the density of livestock in the state as 249 animals and 208 poultry birds per sq. km. On the basis of the livestock density, no doubt, Haryana is placed below in the country but is renowned as the “Milk Pail of India.”

In 1951, oxen, cows, and she-buffaloes were respectively first, second and third ranking stocks in Haryana. By 1956, she-buffaloes became second in ranking and by 1997 they were the first in ranking. In the light of the fast increasing demand for milk and milk products and animal-labour saving farm implements, the trend is very likely to continue in favour of she-buffaloes and cows, however, it is important to note that the proportions of dry she-buffaloes and dry cows are quite high.

That cattle-breeding enterprise here has been an avocation of the poor small farmers to whom livestock rearing is ancillary to crop production. Milk production, therefore, has remained the concern of the widely scattered small farmers. Their outlook of rearing cattle is on the available resources under the mixed farming conditions as an auxiliary source of income. Their eyes remain focused to easy gains, which they can derive without undergoing extra strain. This unattentive state of affairs led to the neglect of the cattle wealth and the resultant loss of potential of a vibrant dairy industry.

With the increase in the human population, the demand for milk and milk products has increased and the commensurate need for increased milk production. There can be different ways of increasing milk production. The number of cows and buffaloes can be increased or the yield of individual cow/buffalo can be raised. Obviously, the solution to the problem does not lie in the increase in number. What is required is rejuvenation of productivity in cow as envisioned in puranic Kamadhenu. This call for a nation-wide effort at rearing only those animals which are scientifically bred and taken care of according to the modern managerial system. Haryana resorted to the evolution of **Quality Cattle** by infusing exotic germplasm in cow for enhanced and stable productivity under the varying environmental conditions.

Indiscriminate breeding has rendered a good number of cow-stock as non-descriptive. Even in the pure stock, the inbreeding has resulted in a large number of low yielder. Mating of animals within the Indian breeds has not been of much avail. To confer more milk in Indian cows, crossbreeding with exotic germplasm has been recognized the only solution for rapid increase in the milk yield. To grade their stock through selective breeding has been the call of the Haryana farmers. In the case of cows, this call has not proved rewarding especially with low-yielding non-descript animals. To convert these into quality cattle, cross breeding has been considered the need of the time. The overall area of the state has now been demarcated into Pure-Breeding Tract and the Cross Breeding Areas. To cover the stock for breeding purposes on scientific lines, Intensive Cattle Breeding Projects, Key Village Programmes and Jersey Cross Breeding Schemes have been put in position. The exotic breeds of Jersey and Holstein-Freisian have been selected for taking up the crossbreeding work. As many as 749 Stockman Centres/Sub Centres have been set up in the state to make available breeding facilities through artificial insemination service. In order to produce the exotic bulls of Jersey and Holstein-Freisian breed of the desired inheritance within the state, the Indo-Australian Cattle Breeding Farm at Hisar has been established. Imported frozen semen is being used for multiplication of the exotic stock at this Farm. In addition, a Frozen Semen Bank has been set up at Gurgaon.

The scientific Cattle breeding has a long history. It started in the 19th Century at Livestock Farm.

Government Livestock Farm, Hisar.

The Hisar Government Cattle Farm or Bir was instituted by Major Livingstone in 1813 A.D., when the country had not yet recovered from the disastrous famine of Sambat 1840 (corresponding to 1783 A.D.). Of the 19 villages included in the Bir, 15 were then waste and uninhabited, and the Stud Department took possession without payment of compensation, and since 1813 government has held the land in full proprietary rights. The four other villages, Rajpura, Sali, Daudpur and Ludas, were at that time inhabited and were acquired after payment of compensation in 1824 and 1825. There were five farms, the Home, the Sali, and the Chaoni, the Mudianwala and the Kherwan. The Home Farm was East of the town about 200 yards from the Mori gate, the oldest of the Farm buildings, was erected at the time of the original institution of the Farm. The Sali Farm was about 5½ miles to the North-West and the Chaoni Farm about two miles to the South-West of the town. Mudianwala was adjoining the town on the South West, and Kherwan was about 10 miles to the North-East.

The locality was on the whole, well chosen, as a considerable area could be irrigated from the canal, but the fact of its close proximity to the town, which had grown considerably since the Farm was first instituted, was productive of some inconvenience to the public not less than to the Farm itself. To obviate this a large area of grazing land was made over to the Local Government for the use of the town cattle.

The area within the limits of the Farm was some 44000 acres. Of this all with the exception of one or two small plots was the property of government. About 4,000 acres were so situated as to be capable of cultivation and the greatest part of this was regularly cultivated by the Farm authorities. The balance was let to tenants on high rents. In ordinary years the uncultivated land afforded excellent pasturage for cattle up till the end of May, after which date they were kept on stored fodder till the rains break. In dry years, however, the grazing in the Bir failed and considerable difficulty was left in providing for the cattle, but of the Farm had grown sufficient fodder to form a reserve against years of drought.

Upto the 1st April 1899, the Farm was managed by the Commissariat Department. It was then made over to the Civil Veterinary Department. The head of the Farm was a commissioned officer of the department, and he had under him a Deputy Superintendent, a Farm Overseer, and a Civilian Farm Bailiff. There were some hundreds of farm hands employed when reaping operations were in progress. All the Farm cultivation was carried on strictly modern and scientific lines, adapted to the necessities of the country and climate. Good English and American ploughs and reaping machines were used, and all the threshing, hay-elevating, and straw chopping was also done by machinery. There was a small steam engine at the Home Farm, which was used to work all the threshing and cutting machines. Farm bullocks worked the rest of the machinery.

Originally horses and camels, as well as bullocks, were bred, but in 1847, or thereabouts, the breeding of horses was given up, and that of camels at the time of First War of Independence in 1857. The objects of the Farm then were to breed bullocks and mules of superior size and quality for Ordnance purposes, and to provide and distribute generally high-class bulls and donkey stallions for breeding purposes. Experiments with the object of improving country wool were also being carried out, Australian Merino rams were being crossed on white Bikaner ewes. The cross bred wool was an undoubted advance on the pure Bikaner wool. Practically all the bulls and bullocks were bred on the Farm, but of the mules the majority was brought as yearlings in the open market and well fed and cared for so as to ensure their developing into Mountain Battery mules.

Most of the bulls and cows kept belonged to the Haryana breed. There was also a few Gujarati and Nagori cows which were crossed with Haryana bulls. The bulls produced were of the finest quality, out of them the Farm kept the best, and from the remaining stock the Superintendent of the Civil Veterinary Department, Punjab, selected to draft to various districts for the use of District Boards. The experiments, made with donkeys, proved that it was possible to obtain almost pure bred Punjabi donkey stallions equal to the best of the imported Cyprian and Italian donkeys at about one quarter of the cost.

The strength of cattle in the Farm in 1915 is given in the margin. A certain number of bulls calves were reserved for breeding purposes, some to

Herd bulls..	24	recruit the Farm Stock and
Supernumerary bulls for distribution to		others for distributing to
Districts, &c	140	districts. The rest were
		castrated and kept
Cows..	1,253	separately from the other
Plough bullocks..	267	cattle. When they were
Ordinance bullocks for service.. ..	129	four year old a careful
Young male stocks..	924	selection was made, and
Young female stock..	971	those that were fit for the
Mares for mule breeding.. ..	59	purpose of artillery
Camels..	8	draught were made over to
Donkey Stallions..	5	the Commissariat
Mules..	154	Department for
Cultivation bullocks..	267	distribution to the various
Donkey mares..	99	Commands.
Young donkey stock..	149	
Rams..	9	
Ewes..	419	
Lambs..	319	
Goats..	27	

The heifer calves were reserved at the Farm for breeding purposes. As many were considered unfit for such, whether by age or by natural faults, were cast and sold by public auction.

The Bir was the resort of hundreds of black buck and chinkara. It also contained a few nilghai. Small games, such as hares, partridges and sand grouse, were very common, and in the winter large numbers of the small bustard were to be seen. Shooting was strictly prohibited except with the permission of the Superintendent of the Farm. Such permission was never granted between the 15th March and the 1st October.

Keeping in view of tremendous potentiality of cattle and buffaloes for rapid economic growth and desirable special changes in Haryana, cattle development programmes were pursued with vigour after independence. The commodities available from these animals could meet not only the increasing domestic demand but also promoted possibilities for export and import substitutes. This greatly enhanced the scope for income and employment in rural economy.

Cattle Development

During the beginning of planning era, the Key Village Scheme (KVS) was the main plank for cattle development. Its objective was the multiplication of superior germplasm from the established farms in selected compact areas in breeding tract. The scheme envisaged a multifaceted approach to cattle development by growing simultaneous attention to better breeding, improved feeding, effective disease control measures, scientific management practices and organized marketing facilities. Under the scheme, two Key Village Centres, one at Ambala and other at Rohtak were established. The KVS proved beneficiary, however, its operational area was confined. This led to the formulation of the Intensive Cattle Development Project (ICDP) in the late sixties:-

Two Centrally Sponsored ICDPs were established at Karnal and Gurgaon during 1967. Each ICDP set to cover a breedable population of one lakh.

SHEEP DEVELOPMENT

In view of the breeding policy of the state the department is striving hard to upgrade the local breed of sheep by using superior germ plasm of 'Nali' breed and cross breeding by using Marino, Rambullet/Hisardale rams through natural services. The department has already set up 59 Sheep & Wool Extension Centres for ensuring breeding and health cover facilities.

There are two Wool Grading-cum-Marketing Centres working at Hisar and Loharu (Bhiwani). These centres procure wool from the sheep breeders at their door-steps by giving them remunerative prices thereby eliminating the middlemen.

Six Sheep Development Projects as 100 % assistance by Central Wool Development Board, Jodhpur (Ministry of Textiles, Government of India) have been sanctioned. Under these projects, sheep and wool Development works through selective breeding, health care, marketing of wool and training to the sheep breeders have been taken up in Hisar, Bhodia Khera (Fatehabad), Sirsa, Bhiwani, Jhajjar and Mahenderagarh districts.

PIGGERY DEVELOPMENT

Pig breeding can play an important role in improving socio-economic status of people belonging to weaker section of society. Pig breeding has remained neglected for long because of general apathy for it.

Two state level piggery farms are working at Ambala and Hisar which are engaged in the production of pure Yorkshire breed of piglets which are given to breeders for further breeding. Besides it, there are 12 Piggery Extension Centres which are providing breeding/treatment services in the state.

GOAT DEVELOPMENT

As per the breeding policy of the state, the department is striving hard to upgrade the local breeds of goat through natural mating with bucks of Alpine and Angloboven cross. Alpine cross and Beetal breed bucks of superior quality are produced at Goat farm, Hisar and given to farmers for cross breeding in the state.

POULTRY DEVELOPMENT

Poultry production has undergone a radical change with the induction of improved germ plasm, balanced feed and extension support. There are four Government Hatcheries at Ambala, Bhiwani, Hisar and Rohtak for the supply of chicks of improved breeds to below poverty line beneficiaries. Besides it, 22 Poultry Extension Centres are working in the state providing health & training facilities to the poultry breeders.

LIVESTOCK HEALTH CARE AND DISEASE CONTROL

For providing efficient veterinary services and to combat various contagious and non-contagious diseases, a network of 2421 veterinary institutions is in existence in the state. On an average, every third village is having one or the other kind of veterinary Institution. More and more veterinary institutions are being added annually and it is the vision of the government that every village of the state should have the facility of veterinary services right at the door step.

To provide more and more vaccine of animals dreadful contagious diseases, a Biological Production Unit popularly known as Haryana Veterinary

Vaccine Institute is functioning at Hisar. This prestigious institution has been identified as one of the sixth institution for P.P.R. vaccine production in the country by Government of India. Shortly this institution is shifting to its newly ultra modern constructed building at Hisar, well fulfilling the G.M.P. Standards.

During the period 1999-2000 to 2003-04, every year respectively, 108.68, 124.91, 126.11, 130.95 and 165.32 lakh animals were vaccinated against pathogenic dreadful diseases. The state is mostly remained protected from dreadful livestock diseases.

Special Disease Control Programme:-

To make the state "Disease Free", a project of "FMD-CP", 100 % Centrally Sponsored Scheme funded by Government of India during 10th Five Year Plan is being implemented in the state. Under the project, free FMD vaccination of target group of animals in 8 districts namely, Hisar, Bhiwani, Jhajjar, Sirsa, Fatehabad, Rohtak, Sonipat and Jind is being done. The programme in the form of campaign was launched on 23-01-2004 from Tosham (Bhiwani) in the state. After the 1st phase of FMD-CP, 2nd phase launched from Sonipat on 22-7-2004 and during the phase 38.13 lakh animals were vaccinated against FMD. Similarly, FMD vaccination programme for the remaining 11 districts was carried out through another programme known as ASCAD (75:25) sharing basis. It is a happy note to report that after the successful completion of the 1st phase, no case of FMD was reported from anywhere in the state.

ANIMAL HEALTH CARE CAMPS

In addition to provide routine health care, vaccination and treatment of the livestock at initial level, the department has formulated a policy to provide special health care at the door steps of the farmers through organising animal health care camps/infertility management camps right in the village. More than 5000 such camps annually are organised in the state and efforts are made to cover each village atleast with one or more camps annually. In these camps, free medicines, mineral mixtures, tonics, feed supplements etc. are given to livestock owners.

HARYANA LIVESTOCK DEVELOPMENT BOARD

There is a constant drain of the germ plasm in terms of the buffaloes and cows, which is the major concerns of the state. To cope with this problem the government enacted the Haryana Murrah Buffalo and other Milch Animal Breed (Preservation and Development of Animal Husbandry and Dairy Development

Sector) Act, 2001 for improvement of the genetic stock of the milch animals specifically the prime breed “Murrah” and local breeds like “Sahiwal” and “Haryana” to improve the skills and technology in the dairy farming and for taking steps for the development of animals husbandry and dairy development sector. Accordingly the Government of Haryana constituted the Haryana Livestock Development Board. Its main objectives are as under :-

1. To improve the genetic stock of the animals in the state of Haryana and to promote breeding activities with special emphasis to preserve and multiply the Murrah germ plasm.
2. To promote, organize and nurture institutions to generate quality breeding inputs and delivery of breeding services at the farmers door step on progressively self generating and economically viable basis.
3. To modernize and upgrade the existing training facilities and to obtain new technologies and upgrade skills on all aspects of livestock production, products processing, storage, transport, merchandising and research work and;
4. Such other objectives as may be prescribed.

Under the Haryana Livestock Development Board the livestock breeding programmes in the state got momentum.

The production of frozen semen is going on at three sperm stations viz. Hisar, Jagadhari and Gurgaon. From the year 1999-2000 to 2003-04 the production of frozen semen has been increased three times from 4.74 lakh doses to 13.85 lakh doses.

All the Artificial Insemination Centres have been made mobile to provide artificial insemination facility at the farmers’ doorstep. The frozen semen, Liquid Nitrogen, A.I. equipments etc. are continuously being provided to the end users through a network of 10 semen banks established in the state. The route, time of delivery of inputs is fixed twice a month to each institution by the concerned Semen Bank Officers.

Quality breeding infrastructure in terms of construction of fifty new Bull Boxes, purchase of liquid Nitrogen Jars, Artificial Insemination Guns, Sheaths, Semen Straw and other related equipments etc. has been created. With this, the supply of liquid nitrogen has been made regular and every veterinary institution is

well equipped with the facility of frozen semen to provide artificial insemination facilities at the farmers' doorstep.

A scheme of performance recording of top quality Murrah buffaloes is going on in the state. Under the scheme, the Murrah buffaloes yielding 12 Kgs. & above milk per day are recorded and incentive is given as under :-

Above 12 Kgs. and upto 15 Kgs.	= Rs. 1000/-
Above 15 Kgs. and upto 18 Kgs.	= Rs. 5000/-
Above 18 Kgs.	= Rs. 6000/-

So far 6317 buffalo owners have been provided incentive to the tune of Rs. 321.00 lakh in various public functions.

The male calves of such top quality Murrah buffaloes are purchased at the age of 12-15 months, reared at "Murrah Calf Rearing Centre, Bhiwani" as future breeding bulls, they are either supplied to Gram Panchayats at subsidized rates for natural service or kept at sperm stations for production of semen. So far, 359 young Murrah bulls have been given to the Gram Panchayats at subsidized rates for natural services. Besides, this 69 bulls have been supplied to BAIF, NDDB & Punjab State.

60 top quality Murrah buffaloes have been purchased which are being maintained at the Bull Mother Farm, Hisar under progeny testing programme.

To promote cattle production and conservation, 95 registered Gaushalas in the state were given grant-in-aid by the State Government @ Rs. 51000/- each during the year 2000-01.

During the year 2001-02, Animal Welfare Board of India provided Rs. 1.86 crore as grant-in-aid to Cattle Welfare Organizations such as Gaushalas, SPCAs and PFAs in the state for preservation and development of the cattle. During the year 2003-04, a grant @ Rs. 75,000/- to each Gaushala has been provided to 147 registered Gaushalas. A sum of Rs. 219.00 lakh to 102 registered Gaushalas had been provided by the Government under 'Prime Minister's Drought Relief Fund' to protect and promote cattle wealth in the state. Besides this, a sum of Rs. 62.25 lakh has also been given to 64 Gaushalas by "Animal Welfare Board" for strengthening of these Gaushalas.

EMBRYO TRANSFER TECHNOLOGY

By latest techniques, cow of best traits is subjected to multiple ovulation, fertilization, flushing of embryos and then planting the collected embryo in foster

mothers. This modern technology of Embryo Transfer will be introduced in the state by Haryana Livestock Development Board. An ultra modern laboratory with latest equipment has been completed at Hisar at the cost of Rs. 35.00 lakh. Although department has already taken a lead in this field by producing three calves using this technology under field like conditions.

LIVESTOCK INSURANCE

Haryana is the first state to pioneer an insurance cover to buffaloes, Haryana cows and bullocks. Under this scheme, 50% of the insurance premium is borne by the Haryana Livestock Development Board. So far, 7611 animals have been insured under this programme.

DAIRY UNITS

The educated unemployed youths are being provided self employment through establishment of dairy units of 3/5/10/20 milch animals after imparted dairy training of 11 days to make them aware of the latest scientific methods of milk production, technique of dairy management, clean and wholesome production of milk and adoption of artificial insemination facilities to improve their genetic stock. During the period 1999-2000 to 2003-04 every year respectively, 1675, 1303, 2816, 8121 and 2098 dairy units were established.

For effective implementation of Milk & Milk products Order-1992 and Haryana Regulation of Compounded Cattle Feed, concentrates, and mineral mixture Order-1999 in the state, a well-equipped modern milk & milk products testing laboratory has been established at Rohtak and for quality control of feed, a feed testing laboratory at Karnal have been established.

HUMAN RESOURCES DEVELOPMENT

A training centre has been constructed at Hisar in which modern equipments and machinery have been made available. This centre has already started imparting training and till date as many as 2100 veterinarians/para-veterinarians. have been imparted training for updating their knowledge and skills.

To provide self-employment, 50 Lay Inseminators termed as "PASHUDHAN VAHINI" have been trained at this institute and they are working in the field successfully. Further, a group of 43 educated unemployed youths sponsored by Shivalik Development Board, Ambala has been imparted similar training for self-employment and are also working in the field.

To upgrade the skill and knowledge of the professionals, Regional veterinary clinical conferences were held at Ambala, Rohtak, Hisar and Gurgaon state during the year 2004-05. Similarly training in account & financial management for newly recruited officers who handle financial matters are trained by experts from Treasury & Accounts Department, Haryana.

CESS ON MILK

Recently State Government has taken a decision to impose cess on the milk exported out of the state. A final decision on the quantum and mode of collection of cess is being worked out which will be additional source of income to department and will help in long way to carryout development work for the dairy.

IMPOSITION OF EXPORT DUTY

With the recent enactment, the state is going to impose fee on the export of Murrah buffaloes, cattle & calve from the state @ Rs. 100/- per calf , Rs. 250/- per cow and Rs. 500/- per buffalo. Necessary steps as the way and mode of imposing of this fee being be worked out .

DEVELOPMENT OF FODDER

Success of every livestock development programme depends upon the adequacy of inputs such as feeding, management and health care. With the introduction of cross breeding programme in cattle, it has become all the more important to provide nutritious fodder to cross bred animals and high yielding animals for better exploitation of milk character among milch animals. The breeders are also required to be educated about the green fodder production and about various high yielding fodder varieties and leguminous fodders. With this in view, the department has set up its own fodder seed farm on 700 acres to produce quality fodder seeds for supplying it to breeders at subsidized rate. Further, a scheme of supply of mini fodder seed kits is in operation in the department. The programme envisages supply of fodder kits every year to farmers on 50 % subsidized rate or free of cost as the case may be.

IMPACT OF LIVESTOCK PROGRAMMES

The programmes for development of livestock in the state now aim at augmenting the supply of nutritive foods like milk, eggs and meat and helping the small/marginal farmers and weaker section of society to diversify their economic activities. Barely 40 year old Haryana today has come to be recognized as the fastest growing state and has been enjoying an enviable position in the country in the matter of its livestock wealth. Both livestock and livestock products of Haryana have been in popular demand in almost all the parts of the country.

After formation of Haryana remarkable achievement in the field of animal husbandry was to witness "WHITE REVOLUTION", to improve the economy of the state and to fill the deficiency in the matter of balanced human diet. To fill up the existing gaps in the productivity of state livestock and requirement of food of animal origin for increased population, improvements in breeding, nutrition, management and disease control are imperative. The steps taken in this direction are discussed as under:

CATTLE & BUFFALO DEVELOPMENT

Haryana is known for two important and recognized breeds of "Haryana Cattle" and "Murrah Buffaloes" but these breeds are confined to some pockets of the state and in the larger parts of the state animals are of non-descript breeds.

According to livestock census 2003 there are 15.40 lakh cattle and 60.35 lakh buffaloes in the state. The concentration of a large number of cattle/buffaloes is no index to the production of milk or economic prosperity of the state. The average milk yield of the state Haryana Cow is 550 kgs and that of buffaloes, 1300 kgs. per lactation. This is fairly higher than the all India average of 173 kgs in cow and 491 Kgs in buffaloes but it is miserably low than the 3700 Kgs in some of the advanced countries.

In order to achieve the objective of higher livestock production. The department has implemented various programmes for upgrading of the non-descript livestock in the shortest possible period.

INTENSIVE CATTLE DEVELOPMENT PROJECT

Cross breeding of indigenous cows with the more potential exotic bulls and selective breeding in buffaloes with proven Murrah bulls has been encouraged for augmenting milk production. The breedable population have been covered under systematic improvement work under the following schemes :

Sr. No.	Name of Project/Scheme
1.	Central I. C. D. Projects Karnal & Gurgaon.
2.	State I. C. D. Projects Kurukshetra, Jind, Bhiwani, Ambala and Sirsa.
3.	Key Village Schemes, Ambala & Rohtak.
4.	Jersey Cross Breeding Scheme Jagadhri.
5.	Progeny Testing Scheme, Hisar.

The breeding programme is primarily being initiated through artificial insemination in I. C. D. Ps/K. V. Blocks etc. for which Semen Collection Stations with a network Artificial Insemination Centres have been set up. With the 780 veterinary surgeons with 2293 veterinary breeding institutions the whole state stands covered .

There has been progressive increase in the number of animal inseminated with this technique as is evident from the table presented here:

Category	Animals covered under artificial insemination (In thousands)			
	1980-81	1990-91	1995-96	2002-03
1. Cows	1.52	4.00	3.45	2.93
2. Buffaloes	65	3.22	3.05	6.07

CATTLE BREEDING FARMS

To meet the growing requirements of superior bulls particularly those of desirable transmitting ability the existing cattle breeding farms in the state are being streamlined and strengthened for taking up scientific breeding and production of progeny tested bulls.

(a) GOVERNMENT LIVESTOCK FARM HISAR

Haryana is proud to possess the Government Livestock Farm, Hisar which is probably one of the biggest Cattle Breeding Farm in this part of the world.

The farm has been the centre of major experimental work for bringing genetic improvement in the breeding stock and on the basis of the success achieved it has been producing studs of various species of livestock. Now a herd

of 1816 cattle of different breeds is kept at the farm for this purpose. To achieve desired result it is imperative to have rigid selection of breeding stock periodically which necessitate & drastic culling programme. This is being implemented as per recommendation of technical committee which meets periodically to avoid any possibility of defective breeding.

The proper systematic and scientific breeding with good management resulted in appreciable increase in milk production at this farm. To arrange feed and fodder for such a large number of animals is no small task therefore, the fodder cultivation programme has been extended in larger area with improved variety fodder seeds. Both pedigree/proven bulls and fodder seeds are being supplied through out the country particularly to the breeding of the state on limited subsidized basis.

(b) PROGENY TESTING FARM HISAR

Progeny testing means the assessment of the breeding values of the transmitting ability of the bulls on the basis of actual performance of their daughters. This technique of proving bulls under scientific conditions of breeding is in hand at the Progeny Testing Farm Hisar. Bulls kept at the Progeny Testing Farm are tested and proved for inherited quality both at the farm and under village conditions in the field area. The proven bulls are issued for breeding so as to upgrade the local stock. There is heavy demand of Murrah buffalo bull from other countries as well. The bulls have been supplied to Philippines, Vietnam, Sri Lanka and Nepal. These pedigree Murrah buffalo bulls are also in very heavy demand both in the state and other parts of the country for selective breeding of buffaloes to improve upon the genetic make up of the progeny for higher milk production. Now a herd of 908 buffaloes has been kept here to meet the demand of Murrah bulls.

(c) INDO-AUSTRALIAN CATTLE BREEDING FARM HISAR.

This project has been set up in collaboration with the Government of Australia to meet the heavy demand for exotic Jersey and Holstein Friesian bulls required all over the country and for our state in particulars, for cross breeding of indigenous cattle for milk production. The contribution of Australian Government included a foundation stock of 150 Jersey and 150 Holstein Friesian Cow/heifers, 20 bulls, equipment for frozen semen laboratory, milking machine and agricultural machinery for fodder production and conservation on modern and scientific lines, training of technicians and farmers in the latest technique of fodder production and conservation and management rearing of cross bred-cattle.

At present a herd of 14 Jersey, 86 Friesian, 552 Haryana, 107 Tharparkar, 222 Sahiwal and 315 Cross-bred cow is kept at this farm.

The studs of exotic Jersey and Holstein Friesian breeds now are produced at this farm in Indian climatic conditions to meet the need of the state.

FROZEN SEMEN BANKS.

Initially the fresh liquid semen being used for artificial insemination had a short span of life but later it was switched over to frozen semen. With the Indo-Danish collaboration, Deep Freezing Semen Bank was established at Gurgaon. Similar arrangements were also developed at Indo-Australian Cattle Breeding Farm, Hisar.

CROSS-BREED CALF REARING, POULTRY, PIGGERY AND SHEEP PRODUCTION PROGRAMME

During the Fourth Five Year Plan various programmes aiming at increased milk, poultry, piggery and sheep and wool production were taken up in Haryana involving Small Farmers Development Agencies/Marginal Farmers and Agricultural Labourers Agencies. But somehow these programmes could not make much headway. But on the recommendations of National Commission on Agriculture, the Government of India sanctioned various projects for cross bred calf rearing, poultry, piggery and sheep production programmes independent of the said organizations by creating a special cell in the Animal Husbandry Department involving the small and marginal farmers and agricultural labourers in the selected districts. These programmes were implemented in the following districts :-

Milk Production	Poultry Production	Piggery Production	Sheep Production
Gurgaon	Gurgaon	Ambala	Sirsa
Ambala	Ambala	Karnal	Hisar
Karnal	Karnal		
Kurukshetra			

Under this programme, each farmer was given subsidy and loan from bank for rearing one cross-bred heifer for concentrates from 3rd month to 28 months of age on average, which was shared by Government of India and State Government in the ratio of 2:1.

This programme also included the setting up poultry, piggery and sheep units for which subsidy was provided on the capital investment to small farmers and marginal farmers/landless labourers respectively.

FEED AND FODDER DEVELOPMENT

Though Haryana happens to be the only state along with Punjab which has a large (13.1% of the total cultivated area) sown exclusively for providing fodder to cattle. It is a striking paradox that the state has the smaller fodder crop area per capita to maintain large number of livestock and there exists serious gap between demand and supply in the feed and fodder. The cattle living on inadequate fodder not only adversely affect milk production but also the health. Nutritious fodder, therefore, is a must for upkeep and production. Hence development of feed and fodder through new-varieties assumes a great importance in the context of mass scale cross breeding. A fodder seed-cum-Multiplication Farm set up at the Government Livestock Farm, Hisar on 70 acres to take up production and multiplication of new varieties of fodder seeds and planting material.

FODDER DEMONSTRATION PLOTS.

In the programme of popularizing cultivation of fodder crops and adoption of improved cultural material and irrigation practices, it is necessary to demonstrate these on the cultivators' fields. Fodder demonstration plots of improved and high yielding varieties were laid down on the cultivators' fields to acquaint the villagers with new varieties of fodder seeds and cultivation techniques. 1578 demonstration plots were laid on the cultivators' fields during the year 1975-76. 175.40 quintals of improved, high yielding varieties of fodder were also distributed to the farmers at subsidized rates. The farmers are now growing fodder crops for their cattle of their own.

MILK PRODUCTION

The Institute of Agricultural Research Statistics, New Delhi conducted a sample survey in Haryana for the estimation of milk production during the year 1966-67 and it was found that daily average milk yield per cow was 2.350 kgs and

buffalo was 4.350 kgs while the per capita per day availability of milk was 352 grams.

There is appreciable increase in milk production of cross bred cows as compared with this indigenous dams. To assess the magnitude of the impact of cross breeding a survey was conducted during 2002-03 by the Animal Husbandry Department and it was revealed that the average daily milk yield per cow in the state has increased to 3.053 Kgs. giving an increase of 0.703 Kgs. per cow per day. Similarly in buffalo the daily yield has gone to 5.218 Kgs giving an increase of 0.868 Kgs. of milk per buffalo. Thus there has been 29.8% increase in the average daily milk yield of cow and 19.8% in buffalo during the period of seven years. The total milk production in the state has gone up from 10.89 lakh metric tonnes in 1966-67 to 15.59 lakh metric tonnes in 2002-03 giving an annual growth 7.1%. The per capita per day availability of milk was 427 grams as compared to 110 grams availability of the country and it was highest in Haryana, which is an index of successful cattle breeding programmes launched in Haryana.

POULTRY DEVELOPMENT

The importance of poultry in Indian raising the nutritional standard of her population cannot be over emphasized. The eggs and poultry meat are among the richest sources of proteins and vitamins. Poultry, therefore, offers the most economical and quickest means with in the easy reach of an average person for increasing the production of high quality protein food in the country.

The poultry population in the state in 1997 was 92.22 lakh. Poultry development programmes are continuing both in the public and private sectors. The egg production in 1973-74 totaled 1072 lakh while egg production in 1966-67 was only 242 lakh In 2003-04, the egg production was 12801.96 lakh.

To make available good quantity stock needed for high production and feed conversion efficiently the poultry breeding programme at state poultry farm Ambala has been intensified. To support this programme and to increase the capacity for multiplication of high quality stock, 18 Poultry Extension Centres in the different poultry pockets of the state are working efficiently. As a result of the breeding programme the average productivity of eggs of birds in Haryana was around 186 eggs per annum in the year 1966-67 while it was 143 and 232 eggs for desi and improved layers respectively in 2003-04.

BROILER PRODUCTION

Till recently surplus cockerels and culled hens from hatcheries and laying farms were the only source of poultry meat. An emerging new trend in poultry

industry is the increasing popularity of raising chicks for meat. Broilers are young chickens about 8 to 10 weeks in age, raised specially for meat production. As broilers are ready for the market after two months, from the chicks hatch out a farmer, therefore, can raise five crops of broilers in a year. Broilers are now being grown to a weight of 1.6 kg in 10 weeks on about 4-5 kg of feed. The efficiency of broilers, production has resulted in the poultry meat being produced more cheaply than other kind of meat.

The commercial poultry farming began of late has advanced to the maximum extent in some parts of Haryana. Around Delhi about 5,00,000 birds are being raised with in a radius of 80 km. covering the neighboring states of Haryana (Gurgaon, Sonipat, Panipat) and Uttar Pradesh (Gaziabad, Meerut). Based on judgment made by recognized authorities the estimate of state's commercial poultry population is given in the following table:

(in Thousand)

Poultry Pockets	Layers	Broilers
1. Jagadhri-Yamunanagar	150	10
2. Gurgaon	100	35
3. Panipat-Sonipat	50	100

Boiler production is now a commercially viable occupation in the state.

In private sector the famous suppliers of commercial layers and broiler chicks in Haryana are listed below:

1. Bhatia Poultries, Ambala.
2. Hi-Bred (India) Pvt. Ltd., Karnal.
3. Hy-Lay Poultry Farms, Karnal.
4. Premier Poultry Breeders, Sonipat.
5. Vinter Hatcheries, Panipat.
6. Saluja Bros., Rohtak.

In public sector the Government Poultry Farm, Ambala is engaged in the production of chicks and supply to the private poultry farmers.

APPLIED NUTRITION PROGRAMME (ANP)

Applied nutrition scheme have been envisaged to provide best balanced diet to the rural masses especially the children and expectant mothers. The work of poultry in the applied nutrition programme scheme in Haryana State is being carried out by Development Department through respective Block Development and Panchayat Officers with the technical assistance of Poultry Inspector, Poultry Assistant and other poultry staff of Animal Husbandry department. They provide training facilities to the poultry farmers regarding management of poultry keeping and convince the farmer to adopt the scheme

To encourage poultry industry the Haryana Government has exempted the marketing of poultry product and poultry feed from excise duty. The electricity is also supplied at concessional rates for poultry industry.

MEAT PRODUCTION

The meat production in Haryana in 1968-69 was 2001 tonnes and it was estimated at 8730 tonnes in 2002-03.

There are 40 registered slaughterhouses in the state where animals were slaughtered for meat production in. Goats account 46.2 percent of the total livestock slaughtered during the year, sheep 34.7 percent of the livestock slaughtered while the remaining 19.1% are pigs. Besides it, the animals are also slaughtered in unregistered slaughterhouses and households for meat production.

HORSE BREEDING

Considering the demand from the enthusiastic horse breeders in the state a prized animal popularly known as "Pendragoon" was purchased from the race Course Bangalore during the year 1970-71, which was stationed at Tohana for breeding purposes. Now the good horserace breed is kept for breeding purposes.

GAUSHALA DEVELOPMENT PROGRAMME

There are 53 Gaushalas of the state which have been fully developed. These Gaushalas continued running their activities under the technical guidance of the department for scientific breeding. The progressive managements have adopted the cross breeding with exotic germ plasm and they are standing on their legs. With the latest scientific methods these institutions serve as demonstration units.

GOSADAN AND CATTLE CATCHING SCHEME

Two Gosadans at Mandewala and Khol continue to maintain old and infirm animals not fit for breeding. One cattle catching party is also in operation to round up stray cattle, which are creating havoc to the farmers.

HARYANA VETERINARY VACCINE INSTITUTE, HISAR.

For effective control of various contagious and non-contagious diseases of livestock, self-sufficiency in the production of various types of seras and vaccines is essential. Such vaccines are manufactured at the Haryana Veterinary Vaccine Institute Hisar. It needs mention here that in this field also the state feels proud that this Institute which caters not only the demand of various vaccines of this state but also that of other adjoining states. Production of vaccines, during 2002-03 is tabulated below :

Sr. No.	Name of Vaccine.	Quantity produced (in lakh doses)
1.	Haemorrhagic Septicemia Alum	80.08
2.	Haemorrhagic Septicemia Adj.	0.99
3.	Sheep Pox	9.97
4.	Black Quarter Vaccine	0.72
5.	Ranikhet Disease Vaccine	--
6.	Fowl Pox	--
7.	Anti Rabic (Full course)	21.25
8.	Anti Rabic (Single dose)	0.01
9.	Swine Fever Vaccine	--
10.	Enterotoxaemia	8.99

EXPORT OF ANIMAL

The animals from Haryana are in very much demand in other states. The fact is evident that on an average about one lakh animals of all categories are being exported from Haryana annually.

TOP POSITION OF HARYANA STATE IN ANIMALS IN THE COUNTRY.

The all India livestock shows held at various places demonstrate the excellence of the improvement practised in the livestock of this state. Haryana animal have proved their superiority and rank over other states' animals by bagging the highest prizes in the all India livestock shows.

ANIMAL HUSBANDRY & DAIRYING AT A GLANCE

Sr. No.	Particulars	Unit	1966	2003-04
1	Livestock Population.	Lakh	55	94.45
2	Poultry Population.	Lakh	05	136.19
3	Veterinary Institutions.	Number	346	2421
4	Intensive Cattle Development Projects.	Number	2	7
5	Milk Production.	Lakh MT	10.80	52.21
6	Per Capita availability of milk per day.	Gms./day	352	660
7	Egg Production.	Lakh	242	12802
8	Per capita availability of Egg per Year.	Number		60
9	Wool Production.	Lakh Kgs.	--	25.18
10	Meat Production.	Lakh Kgs.	--	87.30
11	Identification of Top Quality Murrah Buffaloes.	Number	--	6317
12	Incentive money distributed to high yielding Murrah.	Rs. in Lakh	--	320.66
13	No. of Animals/Top Quality Murrah Buffaloes Insured.	Number	--	5735
14	Insurance premium (50%) paid by HLDB.	Rs. in Lakh	--	3.72
15	Pedigreed Male Murrah Calves purchased.	Nos.	--	374
16	Yound Buffalo Bulls distributed to Panchayats.	Nos.	--	322
17	Artificial Insemination done.	Lakh	00.05	9.93
18	Vaccination done.	Lakh	16.09	165.32
19	Frozen Semen Production.	Lakh doses	--	13.85

In sum, the pride of Haryana and often referred to as “Black Gold” in the state, Murrah, will soon leap over to the East, West and South of the country for the upgradation of local breeds enabling a shift from milk deficient to ‘at least milk sufficient’. Animal Husbandry Department, Haryana has drawn up an ambitious plan to market Murrah Buffalo male and female stock to milk-deficient states and ultimately, graduate to cater to over seas’ demand. A hardy animal which can survive in all kinds of weather conditions the Murrah project envisages indentifying top quality 1.5 lakh young buffaloes and giving incentives to the farmer to rear them. It would be concentrated in “Murrah-centric” villages of Hisar, Bhiwani, Jhajjar, Rohtak, Sonipat, Jind and Fatehabad districts where the buffalo is traditionally found. The project would give direct employment to 26,000 people and indirect jobs to 37.5 lakh households in next five years. Distinguished as Murrah Diamond and Murrah Elite among other categories based on milk produce, this buffalo may yield over 25 litres a day. There are 1600 lakh buffaloes in the world of which 900 lakh are in India alone. Out of this livestock population which comprises local buffalo breeds, cows, goats and sheep, 60 lakh are Murrahs and 30 lakh of them alone are found in Haryana. Murrah is going to be big enterprise of Haryana.