

Stray Animals in Punjab: An Issue of Public Health and Safety

A Minor Research Project Report

(Under CPE Scheme for Enrichment of Research Capabilities)

Submitted To

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DECLARATION

I hereby affirm that the research work presented in the project report entitled **“Stray Animals in Punjab: An Issue of Public Health and Safety”** is exclusively my own and there are no collaborators. It does not contain any work for which a degree/diploma has been awarded by any other University/Institution.

I further declare that the material obtained from secondary sources has been duly acknowledged in the report. I shall be solely responsible for any plagiarism or other irregularities, if noticed in the report.

(DR. MANJU MITTAL)

Date:

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LIST OF ABBREVIATIONS

ARMWS	Animal Rescue Mission & Welfare Society
AWBI	Animal Welfare Board of India
AWO	Animal Welfare Organisations
CPCSEA	Committee for the Purpose of Supervision and Control of Experiments on Animals
CSD	Commission on Sustainable Development
CAPE	Care of Animals & Protection of Environment- India
C.V.D	Civil Veterinary Dispensaries
C.V.H	Civil Veterinary Hospitals
ESCAP	Economic and Social Council for Asia and Pacific
GEF	Global Environment Facility
ICIMOD	International Centre for Integrated Mountain Development
MoEFCC	The Ministry of Environment, Forest and Climate Change
NRDDL	Northern Regional Disease Diagnostic Laboratory
NIAW	National Institute of Animal Welfare
PAWS	Pet Animal Welfare Society
SAARC	South Asian Association for Regional Co-operation
SACEP	South Asia Co-operative Environment Programme
SPWAP	Society for People's Welfare & Awareness Patiala
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Programme

CHAPTER – I

INTRODUCTION

1.1 INTRODUCTION

The cattle and dogs that do not have any owner and strayed across the road or other public places are called stray animals. These animals usually move here and there and having no shelter. It may be noted that the cattle which are owned by temples, goushalas or other institutions are not considered as stray cattle (<http://pashudhanharyana.gov.in>). As residents of the same planet, human and animals have always coexisted. While some people like to romanticize about the harmonious and peaceful coexistence between humans and animals in early history, but in reality, conflict between the two had been omnipresent (Singh, 2013). Human animal conflict includes both competition and predation and takes many forms like crop-raiding, livestock predation, human injury or death (Knight, 2000). According to the National Institute of Communicable Diseases, Delhi, almost all the cases of rabies in India are due to stray dogs, which act as a reservoir for the disease and the state of Punjab is no exception for the same.

With the rapid urbanization, the increasing population of stray animals has become a serious social problem in the cities of Punjab. There are several causes for the rise in the number of stray animals in the state. The present research is an attempt to firstly, identify the impact of stray animals on public health, safety and on livestock. Secondly an attempt would be made to explore about the organizations working for the welfare of stray animals in the state. Thirdly, it aims to study the various plans and policies made by the state government to resolve the issue. Lastly an effort would be made to bring out various solutions for the management of strays in the light of research results.

1.2 STRAY ANIMALS IN PUNJAB

Freely roaming dogs, cows, bulls, pigs, donkeys, monkeys and cats are called stray animals. Stray dogs and cows are a common site in the state of Punjab. Many persons feed and care for stray animals in their neighborhood, but others consider them a threat. The increasing number of these animals has become a menace in the region

state as they are leading to frequent road accidents. A number of news on the print and electronic media shows that the stray animals have become a severe public administration issue in the villages and cities of the Punjab. In winters, the stray animals roaming on the highways amid poor visibility due to dense blankets of fog have become a serious cause of accidents.

Livestock Census started in our country in the year 1919 and since then the process has been continuing on quinquennially basis. The Livestock Census is conducted by “Ministry of Agriculture & Farmers Welfare Department of Animal Husbandry, Dairying & Fisheries” Government of India. So far 19 Livestock Census had been conducted and the last census was held in the year 2012. All States/UTs participated in the census work and completed it in shortest time. The census was conducted simultaneously in all rural and urban areas of the States/UTs including inaccessibility areas on account of topography, weather conditions or severe administrative problems and defense establishments (<http://www.husbandrypunjab.org>)

Table: 1.1 Number of Stray Cattle and Dogs in Punjab

Category	Stray Cattle	Stray Dogs
Rural	81728	256178
Urban	19623	49304
Total	100991	305482

Source: 19th Livestock Census-2012 All India Report (<http://www.husbandrypunjab.org>)

As per the “19th Livestock Census-2012 All India Report” the livestock population has increased substantially in Punjab with 9.57% from 2007 to 2012. It was the first time in Livestock Census that information regarding stray cattle and stray dogs was collected. The information on approximate number of stray cattle and stray dogs were collected from a single source in the village/ward such as sarpanch/other panchayat member or patwari or teacher or other knowledgeable person. It is evident from the table 1.1 that in the year 2012 there were total 100991 stray cattle including 81728 in rural areas and 19623 in urban areas, whereas as per census total number of stray dogs in the state was 305482 including 256178 in rural areas and 49304 in urban areas.

Stray dogs and cows/bulls are an absolute nuisance to the society. They litter anywhere, chase, bite, maul humans and children. The stray dogs create sound

pollution by continuous barking throughout day and night. Increasing number of stray animals is a threat to human society. On the one hand, people are killing harmless animals in the name of food while on the other, nurturing stray dogs. Most dog lovers are non-vegetarian and do not raise any voice against killing of other harmless animals. They kill poultry to feed dogs and ridiculously call themselves animal lovers.

Over one lakh people were bitten by dogs in Punjab last year, many of whom were mauled to death while the rest scarred for life. But the three departments responsible for curbing the stray dog menace have been busy passing the buck.

Table: 1.2 Year wise Dog Bite Cases in Punjab

Year	Bite Cases(In Lakhs)
2014	22000
2015	39000
2016	54000
2017	1,12000
2018	1,13000

Source: National Rabies Control Program (<http://nhp.gov.in>)

The number of stray dog attacks recorded in the state over the last couple of years shows an exponential rise in canine-related attacks in comparison with the numbers registered in 2014, 2015 and 2016. In fact, cases of dog bites in the state have been rising gradually since 2014. Data available with the National Rabies Control Programme (NRCP) showed that 22,000 cases of dog bites were reported in the state in 2014, which went up to 39,000 in 2015 and it further jumped to 54,000 in 2016. However, the real shocker came in 2017 when the number of dog bite cases doubled to 1, 12,000 in the state. The same story repeated itself in 2018 when 1, 13,000 cases were reported. Therefore an increasing trend can be seen in dog bite cases in Punjab.

According to state government records, 50 per cent of the dog bite victims in the state are children. Since the records are based on hospital entries, therefore there are chances that the number of dog bite cases could be many more. The number may be much higher as not all victims seek treatment at hospitals and all the cases are not

on records. But the cases have almost doubled in the past two years. In 2016, only 54,000 cases were reported (www.tribuneindia.com).

Table: 1.3 List of Worst–Hit districts of Dog Bites in Punjab

District Name	Bite Cases
Ludhiana	15324
Patiala	9936
Jalandhar	9839
Hoshiarpur	9260
Sangrur	6593

Source: National Rabies Control Program (<http://nhp.gov.in>)

Table 1.3 contains data regarding top five worst–hit districts of dog bites in Punjab. It is evident from the data that Ludhiana has highest number with 15,324 cases of dog bites. Meanwhile, Patiala (9,936), Jalandhar (9,839), Hoshiarpur (9,260) and Sangrur (6,593) are four other districts that are facing severe problems due to stray dog menace. It is important to mention here that these are reported cases which are on government records, a large number of cases remain unreported hence the real figure can be much more than it.

According to an RTI filed by a city-based activist in Ludhiana, an industrial town, at least 16 cases of dog bites were reported every day between January 2018 and March 2019. During the period, over 7,500 cases of dog bite cases were reported.

In February 2019, a 7-year-old boy from a small village in Punjab's Moga district was mauled to death by a pack of stray dogs. The boy had gone out to fly a kite when the incident occurred. A bystander who saw the incident said the boy was attacked by a pack of dogs and eaten "mercilessly". A local reporter observed that the organs of the boy were also missing when the boy's body was recovered (www.hindustantimes.com).

Another incident was reported from Punjab's Hoshiarpur district is equally disturbing. A 2-year-old boy was killed and eaten partially by stray dogs. By the time people spotted the incident, it was too late for the child. There have been several other

gruesome stray dog attacks in the state, especially in 2018. While locals say they requested local authorities time and again to keep the number of stray dogs in check, it seems not much has been done to keep the number of stray dogs under control. Not only Punjab but there are certain cities in states like Uttar Pradesh, Kerala, and Karnataka where people have been suffering for a prolonged duration due to an increasing number of stray dogs.

It is known that in Punjab every year about one thousand people die due to mishappenings caused by stray animals especially dogs and cows. So to check the menace of stray animals, the state started imposing cow cess on luxury goods and services. So Punjab was the first Indian state which initiated the concept of cow cess. The Local Bodies department proposed to levy cow cess at the rate of Rs. 1,000 on the purchase of four wheeler, Rs. 500 on purchase of two wheeler, Rs. 100 on oil tanker, 2 paisa per unit of electricity consumption, Rs. 1,000 on booking of AC hall of marriage palace, Rs. 500 on booking of non-AC hall, Rs. 1 per cement bag, Rs. 10 per bottle of Indian Made Foreign Liquor and Rs. 5 per bottle on Punjab Made Liquor.

It may be mentioned that Bathinda is the first corporation in the state to introduce cow cess to check the menace of stray cattle. Residents say, they pay cow cess on a number of items such as cars, two-wheelers, electricity bill, marriage palaces, cement bags and liquor. These days the cow cess has been imposed in many corporations/councils/nagar panchyats and is collected by different departments like local government, transport, excise and taxation and power corporation. Further it is proposed that there are over 1 lakh stray cows in state and every day the department would pass on Rs. 30 lakh collected from the cess to cow shelters to buy fodder. The total cost of feeding these cows is expected to cross Rs. 100 crore annually. The state government had collected Rs 14.98 crore by way of cow cess, which was imposed during the previous SAD-BJP regime in 2016, to take care of stray cattle through 512 cattle shelters in the state (www.jagranjosh.com).

CHAPTER – II

REVIEW OF LITERATURE AND RESEARCH METHODOLOGY

In this chapter, an endeavor has been made to provide an overview of various aspects and issues related to the present research work. In order to have an in-depth understanding of the research topic, several studies on stray animals associating to their management, problems and their habitat have been reviewed. On the basis of extended literature review, the research gap has been find out and included in this chapter. Further the need of the study, objectives and research methodology are also discussed in the present chapter.

2.1 REVIEW OF LITERATURE

The studies are reviewed with a view to understand the objectives, research methodology, research findings etc. and to identify the hiatus between the existing literature and the present study. A number of researches on national and international levels are studied, reviewed and summarized as under.

- **Korns *et al.* (1948)**, in research “Dog, Fox, and Cattle Rabies in -New York State” shows the spread of the disease in foxes and cattle with a concomitant sharp decline in canine rabies. Evidence has been presented indicating the value of prophylactic canine anti rabies vaccination. It is mentioned that mass dog vaccination is a valuable adjunct to dog control though it is essential that both techniques be used. It is suggested that these measures preferably be applied over an area which is at least county-wide. Annual re-vaccination of the dogs in a given county is probably necessary only if rabies continues to exist within the limits of this or adjacent counties. Such control measures should be initiated in advance of the introduction of the disease, when cases are occurring in adjacent counties. The importance of an educational program to implement application of control measures should be emphasized. Emphasis should be placed on the benefits to be derived by the individual dog and his owner from the program, rather than on the legal necessity of complying with the regulations or laws that may apply.
- **Carding A.H. (1969)**, in research paper named “The Significance and Dynamics of Stray Dog Populations with Special Reference to the U.K. and

Japan” states that stray dogs provoke spread of disease, inflicting wounds on people, damaging property, creating a hazard on roads and excessive noise. Certain control measures are concerned in both the countries either with reduction of surplus puppies or with absorbing a surplus after production.

- **Feldmann *et al.* (1973)**, in research named “Free-Roaming Urban Pets” examines that free-roaming urban pets cause major problems because they harbor zoonoses, bite people around, cause fatal accidents, destroy property and wildlife, and create noise and pollution. It is important to inform veterinarians and public health professionals about overpopulation of pet animals and to implement practical solutions to the problems caused by free-roaming and unwanted pets.
- **Griffiths *et al.* (1975)**, in research, “Stray animals: Their impact on a community” states that pet owners are allowing the reproduction of kittens and puppies in such numbers that they often have no cash value and, in fact, the owners will spend money, in the form of advertising, to facilitate their disposal. Free roaming dogs and cats present a mild to moderate problem, originating from a small percentage of pet owners. Only a small amount of pet animal suffering occurs by death from environmental hazards as automobiles and there is just a moderate amount of intentional killing of non desirable pet animals. The lack of understanding of the pet population crisis and compassion toward animals on the part of pet owners is evident.
- **Buechner *et al.* (1977)**, in research “Satellites for Research on Free-Roaming Animals” attempted to describe the technology being developed to track animals through satellites in natural environments. Tracking free-roaming animals by satellite while simultaneously monitoring physiological and environmental parameters provides an important new technology for biological studies of animals. A worldwide capability in satellite radio-telemetry of animals in natural environments would enable biologists to delve more deeply into such phenomena as patterns of migration, orientation and navigation, the physiology of migration, the social use of space, and the vegetational relationships of large ungulates, knowledge of which is increasingly important at this critical period in the evolution of the world

ecosystem. It also benefits the biologists to migration and navigation patterns of animals, which is important to understand the changes in ecosystem.

- **Baxter & Lack (1984)**, in research entitled “The deleterious effects of dogs on human health: Canine zoonoses” states that dogs are responsible for each year for the onset in humans of wounds sepsis as well as an indeterminate number of anthropoid infestations. More diseases of human seem to be acquired from dogs. The distribution and behavior of dogs are potential causes of human diseases.
- **Sampson, W.W. (1984)**, in study entitled “The Urban Canine: Pet, Disease, Vector, Safety Hazard, Nuisance” states that the canine animal is involved as a vector in the spread of diseases as well as being a safety hazard and causing nuisances. Further the dog bites as canine fecal and urinary contamination of the environment is discussed.
- **Blackshaw, J.K. (1991)**, in research article “An overview of types of aggressive behavior in dogs and methods of treatment” reinforces evidence that social disruption is caused by aggressive dogs, but it also indicates that many responsible clients seek advice on how to deal with this behavioral problem. The dangerous dog list put out by the local Brisbane City Council includes the first three breeds mentioned and the Rottweiler as the top four breeds causing aggression problems. Hospital records in Victoria and Queensland confirm that most damage is caused to humans by Bull Terriers and German Shepherds. Many breeds similar to those in our study are also represented in American data on aggressive breeds.
- **Clark *et al.* (1991)**, in scientific correspondence "Fatal and Near-Fatal Animal Bite Injuries," reveals that fatal and near-fatal mauling of humans by pit bulls have recently become a topic of major public concern, resulting in the passage of laws in some jurisdictions that make the owner of a pit bull criminally liable for manslaughter if his or her pet causes a human death. The authors recently investigated two cases in which children were fatally injured by pet dogs. In the first case, a 17-day-old girl suffered fatal abdominal injuries when attacked by a pregnant Siberian husky. A 2-year-old girl expired from neck wounds inflicted by a pit bull or a rottweiler or both. Because no expert would testify as to which dog caused the fatal injury, the owner of the

animals was not charged under a statute which specified criminality only if a pit bull caused the fatal injury. We also examined a 12-year-old boy who attempted to pet a circus tiger; the animal grabbed his arm with its claws and bit off the arm at the shoulder. The arm could not be reattached, but the child survived. These cases and the differentiation of animal bites from other injuries will be presented.

- **Lackmann *et al.* (1992)**, in research work named “Surgical treatment of facial dog bites injuries in children” suggest that a clinical classification of dog bite injuries in regard to a special therapeutic regime for each stage. In this way, guidelines may be established for the surgeon dealing with these injuries. This stage-dependent therapeutic management led to good aesthetic and functional results in all our patients, except one. The minimal postoperative local infection which was treated successfully with antibiotics. Staging of dog bite injuries seems to be useful in daily pediatric clinical work.
- **Cummings (1994)**, in study named “Antibiotics to Prevent Infection in Patients with Dog Bite Wounds: A Meta-Analysis of Randomized Trials” found that Meta-analysis can be helpful in this situation by quantitatively summarizing results across studies. Meta-analysis was applied to controlled trials that were designed to test the hypothesis that prophylactic antibiotics prevent infection in patients with dog bite wounds. Prophylactic antibiotics reduce the incidence of infection in patients with dog bite wounds. The full costs and benefits of antibiotics in this situation are not known. It may be reasonable to limit prophylactic antibiotics to patients with wounds that are at high risk for infection.
- **Morgan *et al.* (1995)**, in scientific correspondence "Management of Facial Dog Bite Injuries," reveals that oral and maxillofacial surgeon with a comprehensive review of the incidence, path physiology, diagnosis, and management of facial dog bite injuries. Most injuries occur in younger patients in whom appearance is a priority. Due to the increasing number of civil litigations, virtually every state in America today requires that the health care provider report all animal bites to the appropriate local public health authority to identify new cases of rabies as well as to identify animals that have injured humans in the past.

- **Sacks *et al.* (1996)**, in research article named “Fatal Dog Attacks-1989-1994” states that Breed specific approaches to the control of dog bites do not address the issue that many breeds are involved in the problem and that most of the factors contributing to dog bites are related to the level of responsibility exercised by dog owners. In order to prevent such injuries and deaths public education about responsible dog ownership and dog bite prevention, stronger animal control laws, better resources for enforcement of these laws, and better reporting of bites was recommended. A great need was found on anticipatory guidance by pediatric health care providers should address dog bite prevention.
- **Langley & Morrow (1997)**, discussed about “Deaths resulting from Animal Attacks in the United States” and the most deaths occurred among white males. Both fatal and nonfatal animal-related injuries are under-recognized public health hazards. Health care providers should educate their patients on exercising caution around animals, seeking medical care after an animal injury, carrying epinephrine kits if they have a history of systemic reactions to insect stings, and wearing helmets and other protective equipment when riding or working around large animals. Veterinary schools should increase the training of students in proper Animal Hymenoptera Snake Spider Scorpion Marine Unknown/unspecified methods to approach and restrain animals to prevent the chance of an injury occurring. Workers should always have an escape route in mind when handling large animals.
- **Fiedler *et al.* (1998)** in research named “Causes of Fatalities in Older Farmers vs. Perception of Risk” states that age is an important risk factor for sustaining a fatal farm injury. 5 Older farmers may be more susceptible to injury or death due to slowing of information processing, musculoskeletal degenerative change, and decreases in acuity of sensory systems, particularly vision and hearing. Education efforts for older farmers should focus on areas most likely to affect this age group, such as tractor and/or heavy machinery safety and safe livestock handling practices. Gender should also be considered when focusing on education, because more men sustained fatal injuries than women.
- **Weiss *et al.* (1998)**, in research work named “Incidence of dog bite injuries treated in emergency departments” states that dog bite injuries are important

source of bites in US population. The study investigated the national probability sample of patients visiting the emergency departments in order to find the features of dog bite injuries. Proper check and prevention of dog bite injuries among children were needed.

- **Ugboko *et al.* (2002)**, in research “Facial Injuries caused by Animals in Northern Nigeria” suggest the wearing of protective glasses and coagulation of the new-born calf’s horns to forestall such accidents. The necessitated close interaction of cattle rearer with animals like such as cats, camel, cows, horses, pigs, and donkeys, among tend to cause facial injuries during agricultural activities, mainly children are the victims. The health education authorities must ensure sustainable compliance in the use of protective glasses by cattle rearer.
- **Khokhar *et al.* (2003)**, in work named “Profile of dog bite cases attending M.C.D. dispensary at Alipur, Delhi” explains that children are the most frequent victim of freely roaming stray dog bites. Prevention of dog bite injuries and their management needs to include a variety of approaches. Local treatment of the wound right after a bite is an important and this is highly lacking. An expectant guidance by the parents and the teachers is the need of the hour in case of young children as victims.
- **Reese J.F. (2005)**, in research article “Dogs and Dog Control in Developing Countries” embarked that the human population is subjected to minor problems by a large free-roaming dog population, including noise and environmental soiling by ordure, and to some major public health issues, such as rabies, from which thousands of people die every year, mainly in developing countries. The control over rabies is possible and that control measures adopted must be suitable to the society and situation in which they are applied.
- **Panda & Kumar (2006)**, in research “Environmental pollution caused by stray animals in Palampur city, Himachal Pradesh” states that Stray animals not only pose serious threat to the traffic on roads, it also causes serious hazard to the human health by direct injuries caused by bite etc.. The feces and other excreta of these animals also contaminate the soil, water and vegetations. Hence, there is a chance of transmission of parasitic diseases of zoon tic to

human beings. The finding indicates that poor hygienic and sanitary measures were practiced while processing, handling and serving the milk to the consumers. Therefore, continuous monitoring of foods with regard to bacterial contamination is necessary to ensure that consumer health is protected.

- **Cliquet *et al.* (2007)**, in research “The safety and efficacy of the oral rabies vaccine SAG2 in Indian stray dogs” notifies that there is a great need to control rabies in dogs, which are responsible for virus transmission. SAG2 vaccine is the first anti-rabies oral vaccine registered in India. This vaccination induced a complete protection in dogs after a highly virulent rabies challenge which killed all viruses. India is one of the countries with the highest prevalence of human rabies throughout the world. Dogs are primarily responsible for rabies transmission. Among them, stray dogs play a major role in that country. Parenteral vaccination programmes are insufficient to eliminate rabies partly due to difficulties in establishing satisfactory immunization coverage in the dog population in view of the high proportion of stray dogs. Oral vaccination may be a useful adjunct to parenteral vaccination by increasing dog vaccination coverage.
- **Ramanujan, A. (2007)**, in research entitled “Violent Encounters: ‘Stray’ Dogs in Indian Cities” presented a large-scale massacre of street dogs in the southern Indian state of Karnataka in 2007. Between January and April, under pressure from citizens and the media, following the deaths of two children, the municipality brutally trapped thousands of dogs, dumped them in packed shelters or vans without sufficient food or water, sometimes for several days, and then poisoned or electrocuted them. The moral panic surrounding street dogs largely produced and amplified by press coverage. It resulted in sporadic and clandestine killings of stray dogs.
- **Slater *et al.* (2008)**, in research entitled “Free-roaming dogs and cats in central Italy: Public perceptions of the problem” examined the extent and types of problems associated with free-roaming dogs and cats in Italy. Problem occurs because of abandonment dogs and cats and failing to sterilize them. It urges the need of government to raise funds to support existing laws which can help, protect and eventually decrease the numbers of homeless and free-roaming dogs and cats.

- **Menezes, R. (2008)**, in his research article named “Rabies in India” examines that Rabies is epidemic in India .It is being eradicated in many countries but every year millions of people suffer from this disease due to bites by stray animals. To reduce the deaths from rabies, it needs an integrated effort of legal authorities and public health officials. Certain measures like vaccination of animals to eliminate infection and birth control, creating awareness through public health programs is the need of the hour.
- **Jasper, J. (2008)**, research “Animals, Violence Toward” identifies that human development has affected natural habitats of animals, resulting in endangering many species and causing extinction. Animals are used in either wrong ways by human for various uses like agriculture, violent hunting, eating animals in form of non vegetarian diet, entertainment purpose in circus and medical laboratory experiments. Anthropomorphism, a perception or projection of human traits onto nonhuman creatures or objects, can help many humans to see considerable similarities between themselves and other species.
- **Vijayachari et al. (2008)**, in research work named “Leptospirosis: an emerging global public health problem” assessed that Leptospirosis has been recognized as an emerging global public health problem because of its increasing incidence in both developing and developed countries. A number of Leptospirosis outbreaks have occurred in the past few years in various places such as Nicaragua, Brazil and India. Some of these resulted due to natural calamities such as cyclone and floods. It is a direct zoon tic disease caused by spirochetes belonging to different pathogenic species of the genus leptospira. The stray animals act as vectors. Human infection results from accidental contact with carrier animals or environment contaminated with leptospire.
- **Rani et al. (2009)**, in research “Injuries by Bull Horns: Patterns and Prevention Protocols” reveals that the maximum numbers of injuries are sustained in rural people while rearing the cows and bulls, during feeding, while tying them or milking the cows or buffaloes. Researchers advise wearing helmets and steel-toed boots as a simple and important safety strategy to prevent bull gore injuries. Dehorning can be encouraged when the calf is two months to two years old. In addition, traffic police should be directed to

keep stray cattle away from road dividers and busy sections of the roads thus minimizing attacks.

- **Dalla *et al.* (2010)**, in research work named “Free-roaming dog (FRD) control among OIE-member countries” states Free-roaming dogs are a global problem involving countries of all degrees of economic development, but especially poor countries. In this research, a questionnaire was distributed to the state veterinary services of all 172 OIE countries to collect data on the different national approaches to dog population control. The intensity of the free-roaming dog (FRD) problem was negatively correlated with the value of the UN's human development index recognized for each country. Dog bites/attacks and rabies were the main problems associated with FRDs, and these problems were reported disproportionately by less-developed countries. Dog-control programs (DCP) were more widely used among the more-developed countries. In less-developed countries, they tended to employ killing methods that are not recommended on animal-welfare grounds. Dog shelters are important tools in the control of FRD populations, particularly where euthanasia is limited and many tools are being used to deal with it.
- **Fielding & Mather (2010)**, in research article “Stray Dogs in an Island Community: A Case Study From New Providence, The Bahamas” proposed the free spay and neuter programs of nongovernmental organizations to be encouraged and increased so that the operations are accessible to all dog owners. Residents have a high tolerance to free-roaming dogs. It is required to devise a scientific control strategy that will be both effective and economic.
- **Hsu *et al.* (2010)**, in research named “Dog Keeping in Taiwan: Its Contribution to the Problem of Free-Roaming Dogs” embarks that low rates of neutering, easy availability of low- or no-cost puppies, a tendency to allow owned dogs free access to the outdoors, unrealistic expectations of dog ownership, canine behavioral problems, and religious and cultural taboos against euthanasia and shelter relinquishment have contributed to the recent increase in the numbers of free-roaming dogs in Taiwan. Some Taiwanese shows resistance to canine euthanasia and willing to provide shelter to free roaming dogs, giving a way for reducing the existing free-roaming dog population.

- **Totton *et al.* (2011)**, in research paper “Stray dog population health in Jodhpur, India in the wake of an animal birth control (ABC) program” examines that surgical sterilization can be seen as best birth control remedy in stray dogs. Sterilization results dogs to roam less, expend less energy, decreased metabolic rate occurring with the loss of reproductive hormones. Sterilization further results higher prevalence of skin conditions. It is suggested that the dogs and the environment at the ABC facility needs to be treated using effective tick control protocols.
- **Ehsan *et al.* (2012)**, in research “Design and Analysis of Delay-Tolerant Sensor Networks for Monitoring and Tracking Free-Roaming Animals” describes that biologists have recognized a great need for studying animal natural habitat, monitoring of endangered species and wildlife animals’ behavior and movements. This research is concerned with the design and analysis of delay-tolerant networks (DTNs) deployed for free-roaming animal monitoring, wherein information is either transmitted or carried to static access-points by the animals whose movement is assumed to be random. Specifically, in such mobility-aided applications where routing is performed in a store-carry-and-drop manner, limited buffer capacity of a carrier node plays a critical role, and data loss due to buffer overflow heavily depends on access-point density. The invention of delay-tolerant networks (DTNs) are installed for free-roaming animal monitoring, wherein information is either transmitted or carried to static access-points by the animals whose movement is assumed to be random.
- **Wladis & Dewan (2012)**, in research entitled “Periorbital Trauma from Pit Bull Terrier Attacks” investigated that nature of periorbital trauma after pit bull attacks. While these attacks have been well-characterized in the popular media, no case series has documented the ophthalmic manifestations of this trauma. Despite the lack of post-operative oral antibiotic use, no patient developed a wound infection, the ophthalmic setting; pit bull terrier attacks most frequently involve children and result in eyelid lacerations. Canalicular injuries are common after these attacks.
- **Voslarva & Passantino (2012)**, research “Stray dog and cat laws and enforcement in Czech Republic and in Italy” stated increasing animal

population control is a complex issue and emerging certain serious health issues for human health in EU countries. Proposed strategies such as licensing, public education, adequate funding, close involvement of veterinarians and of official veterinary services, working in collaboration with universities, public health authorities (national and regional government), animal welfare associations are the requirements of managing conditions leading to sustainable outcomes.

- **Singh *et al.* (2013)**, in research work entitled “Veterinary Urban Hygiene: a Challenge for India” explains that the canine population has increased along with the human population because lack of control measures such as impounding stray animals and euthanasia. It further causes unhygienic conditions in urban areas causing disease among human and animals, proving fatal. To improve veterinary-related hygiene in urban areas and to accelerate livestock production operations, there is a vigil requirement to develop science-based strategies enforced through strict regulations.
- **Dias *et al.* (2013)**, in research “Size and spatial distribution of stray dog population in the University of São Paulo campus, Brazil” notifies that stray dogs in the university campus needs to be monitored so that they can’t harm people inside. Five observations were made during the study period, using a mark-resight method. The same route was performed in all observations, being traveled twice on each observation day. Observed animals were photographed and the sight coordinates were obtained using a GPS device. It was concluded that the preferred source of food of the stray dogs on the University of São Paulo campus was leftover food deliberately offered by restaurant users. The population was stable during the study period and the constant source of food was the main reason to retain this population within the campus. People should be discouraged to provide leftover food to stray dogs. Abandonment should also be addressed within the campus, perhaps by closer monitoring of people bringing dogs in. From an animal welfare and (human) public health perspective it would be prudent that stray dogs within the campus had their health status monitored systematically. To achieve these goals, volunteers, visitors, the university community and researchers should be involved with the problem, supported by public policies.

- **Ghatak and Singh (2015)**, research “Veterinary Public Health in India: Current Status and Future Needs” states that due to high population density, the re-emergence of zoonotic pathogens, environmental pollution and antimicrobial resistance, it urges the need for the development of VPH (Veterinary public health) in India. Although VPH does not have a conventional status in India yet efforts are being made by the official medical authorities to promote functional VPH service to supplement the overall healthcare infrastructure in the country.
- **Valley & HP (2015)**, in scientific correspondence “Feral dogs of Spiti Valley, Himachal Pradesh: an emerging threat for wildlife and human life” reveals that there is lack of administrative support in the valley to control the frequent reproduction of dogs, leading to over population resulting into dog–human conflicts, such as dog bites, road traffic accidents, inconvenience due to their escalated fights, blind chasing of one another on roads and barking. Feral dogs are causing a serious threat to wildlife in Spiti Valley. Contraceptives and sterilants are used owing to cost-effectiveness, convenience and social acceptability over surgical sterilization for dog population control. Woefully, in Spiti Valley such facilities are almost minimal.
- **Kamble *et al.* (2016)**, in research “Knowledge, Attitude and Practices Related to Animal Bites among the Residents of an Urbanized Village in South Delhi” assess knowledge, attitude and practices related to animal bite among the residents via cross-sectional study. Seventy five percent of the people in Aliganj have heard of rabies. The results indicate the need to use the mass media to spread awareness about first aid. Health education through anti-rabies campaigns must be provided especially to children for protecting themselves from rabies. Some people are required to bring about positive attitude and awareness about the importance of consulting a qualified doctor and vaccination to prevent rabies.
- **Fraser & MacRae (2016)**, in research named “Four Types of Activities that Affect Animals: Implications for Animal Welfare Science and Animal Ethics Philosophy” investigates four types of activities that affect animals’ life. In Type 1 activities (keeping animals), people care for animals keep them in shelters. In Type 2 activities (deliberate harm), people intentionally harms

animals results in animal suffering. Type 3 activities motivate people to recognise and avoid intentional harms, and to find less harmful ways of achieving human goals. Type 4 activities, involves recognizing commonalities between animal welfare, conservation and human well-being. The traditional focus is on Type 1 and 2 activities rather it needs to include Type 3 and 4 activities, especially as animals increase with human population growth.

- **Kanchan (2016)**, in research “Animal Attacks and Injuries: Fatal” notifies human animal conflict because of the destruction of natural habitat of animals. Animals are thus introduced in human surroundings causing animal attacks. These animal attacks sometimes prove fatal for public. So, the medico legal experts need to have up to the minute knowledge on the cases of fatal animal attacks.
- **Sharma and Shah (2016)**, in research named “A Practical Animal Detection and Collision Avoidance System Using Computer Vision Technique” suggest a simple warning system, efficient automatic animal detection and a low-cost approach for automatic animal detection on highways for preventing animal-vehicle collision using computer vision techniques. The proposed method can alert the driver when the vehicle speed is up to 35 km/h. Though the system is tested on Indian highways but also can work in other countries.
- **Otranto et al. (2017)**, in research “Zoonotic Parasites of Sheltered and Stray Dogs in the Era of the Global Economic and Political Crisis” states that sheltered and stray dogs acts as vectors and badly affects public health when they are shifted from one place to another. Further the adequate treatments and preventive measures for such diseased animals is not the priority for the public health and veterinary organizations. Spay-neuter programs are suggested and encouraged to limit the overpopulation and euthanasia of unwanted and diseased dogs.
- **Sharma & Shah (2017)**, stated “Design and Development of Animal Detection Algorithm Using Image Processing” presents a distance finding method and a simple and a low-cost system for automatic animal detection on highways for preventing animal-vehicle collision using image processing and computer vision techniques. One serious problem that all the developed nations are facing today is death and injuries due to road accidents. The

collision of an animal with the vehicle on the highway is one such big issue apart from other issues such as vehicle over-speed, abrupt lane change, drunk-drive and others, which leads to such road accidents. In this research thesis, a simple and a low-cost system for automatic animal detection on highways for preventing animal-vehicle collision using image processing and computer vision techniques is presented.

- **Guilloux *et al* (2018)**, in their research “Stray Dogs in Urban Fragments: Relation between Population’s Perception of their Presence and Socio-demographic factors”, stated that stray dogs are associated with environment and public health impacts. The objective of this study was to evaluate the association of local socio demographic and environmental factors with the population perception of presence of stray dogs in urban fragments of São Paulo city. A convenience sample of six urban fragments was selected. In-depth interviews were performed, using a systematic random sample of households in each study area, between October/2010 and January/2011 to identify socio-demographic factors of interest and determine the population’s perception of stray dogs. Additionally, the presence of stray dogs was estimated by photographic mark-recapture method. The degree of human-dog proximity and environmental factors such as waste handling were associated to the sighting of stray dogs. Stray dogs were observed in two of the six study areas, agreeing with the greater population perception of this issue on those areas. Intervention in these factors and encouragement of responsible ownership are two potential solutions for management and reduction of problems associated with the presence of stray dogs.
- **Mota Rojas *et al.* (2018)**, in research work named “Teaching Animal Welfare in Veterinary Schools in Latin America” explains the current drives of change on the importance of teaching animal welfare. The research analyzed the current drives of change on the importance of teaching animal welfare in Latin America. The competences recommended from international education organizations for the region, and discussed how students of veterinary science may acquire AW sound skills by using project-based learning and ramification. Researcher emphasized the need of introducing animal welfare in

veterinary training programs and has proposed some approaches regarding the criteria, contents and concepts of animal welfare training.

- **Arya *et al.* (2019)**, in research “Circadian variations in foraging and resting/standing activity patterns of stray street cattle of urban Sambalpur, Odisha, India” describe that street cattle is attributed to urban development and reduction in the size of grazing land area in and around the towns and cities. The street cattle contribute significantly to spread of disease, traffic congestion and occurrence of road accidents. Sometimes street cattle become victim as they consume plastic bags, pins, shoe straps and other metallic junks along with the leftover eatables. Many female cow owners release cows into the streets for foraging on regular basis, returning once or twice to their owners every day.

2.2 RESEARCH GAP

It has been observed from the detailed literature review that there are numerous studies conducted on stray animals all over the world. The studies reviewed pertain to various aspects of stray animals like problems of freely roaming dogs, spread of disease due to dogs, technology to track stray animals, rising animal violence, administrative responsibilities to tackle stray animals around the globe etc. As far as state of Punjab is concerned, it has been noticed that there is negligible research on the stray animals. There is hardly any study on stray animals in the state in recent past. Hence there exists a research gap and the present study is an attempt to answer the following questions.

- What are the reasons for increasing number of stray animals in the state?
- What is the impact of stray animals on public health and safety?
- What are the various organizations working for the welfare of stray animals in the state?
- What are the state government policies to resolve the issue of stray animals

2.3 RATIONAL OF THE STUDY

Human and animals have coexisted on the planet earth for ages. Conflict between humans and animals is not new rather it is omnipresent. The damage and destruction caused by a variety of animals to human property and sometimes to human life is a real and significant danger to human communities. Limitless increase in the stray dogs and cows population is a cause of concern for the state government. It is an unpleasant scene to witness stray dogs roaming and sleeping freely in the colonies, streets, shopping centers and also inside/ outside tourist places. It leads to create a depressing image of the administration in the state.

Therefore there is an urgent need to resolve the issue of stray animals to protect public health. Hence the present study “**Stray Animals in Punjab: An Issue of Public Health and Safety**” is an attempt to get deep insights into the problem and to suggest suitable remedies to get effective solutions for the same.

2.4 OBJECTIVES OF THE STUDY

- To study the reasons for increasing number of stray animals in the state.
- To study the impact of stray animals on public health and safety.
- To explore information about the Stray Animal Welfare Organizations working on the centre and state level.
- To study the centre and state government policies for the management of stray animals.
- To make suggestions for the management of stray animals based on the research outcomes

2.5 RESEARCH METHODOLOGY

This part of the study discusses in detail the methodology adopted for the present research work. It describes the various sources used for collecting the data for achieving the end objectives of the present research work. To achieve the conceived objectives of the study, mainly the secondary data has been used.

- The first objective of this research is to study the reasons for increasing number of stray animals in the state. To achieve this objective the employees and members of different departments and NGOs were approached and discussions were made for the same.
- To study the impact of stray animals on public health and safety, the records of animal attacks are taken from print and electronic media and are included in the study in a tabular manner. Further to study the impact of stray animals on crops and livestock, an interaction was made with the rural people and recorded general statements are included in the study.
- To explore information about the ‘Stray Animal Welfare Organizations’ working on the centre and state level, the material has been collected from both online and offline secondary sources of data.
- To get an insight into the centre and state government policies regarding stray animals, the data has been collected from the different government departments associated with stray animals.

CHAPTER – III

REASONS FOR INCREASING NUMBER OF STRAY ANIMALS AND IMPACT OF STRAY ANIMALS

The rising number of stray dogs and cattle has become a serious problem in the state. In the present chapter, an attempt has been made to identify the various reasons for increasing number of stray animals in the state. Impact of stray animals on public health and safety, crops and livestock and other impacts on social life are also included in this chapter.

3.1 Reasons for Increasing Number of Stray Animals in Punjab

The number of stray animals continues to rise because of various reasons, which are mentioned as under:

- The first root cause for increasing the number of stray animals is the rise in human population resulted in continues loss of natural habitats. Habitat destruction has created a competition between humans and animals for limited space and resources.
- An extraordinary situation is prevailing in rural India with regard to livestock. With many parts experiencing agrarian distress, farmers are under financial stress from their main vocation. While that has made it difficult for them to afford the upkeep of their livestock. Therefore the farmers abandon their useless cattle into other areas. Several farmers leave their useless animals during cattle fairs also.
- One more prominent reason of the stray cattle is the unplanned dairies, inside the city. Usually the owners, after milking the cow leave them loose so that they can graze outside.
- One more prominent reason of increasing number of stray animals is pet abandonment. People abandon their domestic dogs and other pet animals due to several reasons like medical problems of animals, increasing cost of pet ownership, lifestyle changes, housing problems and many more.

- Uncontrolled breeding amongst street animals also resulting in increasing their population.
- The open garbage on the road sides encourages stray dog population. Stray dogs are scavengers, so they rely on garbage on the roads as a source of food.
- Due to the attacks of cow vigilantes, the bovine traders are not taking bulls and cows, which have completed their age of lactation, forcing the villagers to set them free in cities. The number of stray bulls and cows has increased many-fold in the entire state.

3.2 IMPACTS OF STRAY ANIMALS

Human life is precious and should be saved at any cost. Stray animals roaming around freely in the cities have become a serious menace. Several lives have already been lost and many have been injured due to accidents involving stray cattle and dogs. Stray dogs provoke spread of disease, inflicting wounds on people, damaging property, creating a hazard on roads and excessive noise (Carding,1969) . Groups of stray dogs could be witnessed roaming in the streets and the situation is worst during nights when most of the people fall prey to their attack.

3.2.1 IMPACT OF STRAY ANIMALS ON PUBLIC HEALTH AND SAFETY

Stray and roaming dogs and cows are usually poorly cared for and often carriers of diseases. Many diseases of animals are highly contagious like rabies and leptospirosis are well known while other diseases are not so commonly recognized. When certain stray dogs bite humans, they infect those people with rabies, a viral disease that causes acute inflammation of the brain

Stray animals are usually seen roaming in and around the residential areas and also on roads. Sometimes, the animals appear all of a sudden on the roads, jeopardizing the lives of those riding motorbikes and other vehicles. Several mishaps have proved fatal, resulting in the loss of precious lives. A number of news is present in print media regarding stray cattle attacks and injuring people on the roads. Besides, many people sustain injuries in the accidents. Apart from the internal roads, a large number of stray animals can be seen roaming on highways. People travelling on national highways are always at the risk of meeting with an accident due to these stray

animals. The risk of accidents increases manifold during the foggy days and at night as it becomes very difficult for drivers to spot stray animals.

To study the impact of stray animals on public health and safety, the records of animal attacks are taken from print and electronic media and are shown in the Table 1.4. The reported incidences are arranged year wise starting from 2016 to 2019 and the source of news is shown in the table simultaneously.

Table 3.1 Prints and Electronic Media News of Stray Animal Attacks in Punjab

Date	Incidence	Source
29/08/2016	Stray bull runs amok in Patiala, kills one, injures another. A stray bull killed a man by piercing his eyeball and puncturing his lungs and kidneys with his horns, here on Sunday. Another person, who also came under the bovine's attack, has sustained injuries and is admitted at a hospital.	https://www.hindustantimes.com/punjab/stray-bull-runs-amok-in-patiala-kills-one-injures-another/story-Uo59M6hAkS1VHToFLwUAjJ.html
08/07/2017	Dogs mutilated four-year-old Harman Singh of Bishangarh village in Sanaur, and he had to undergo plastic surgery of the face. The child was attacked by a group of dogs. Two students were injured in Patran when they were attacked by dogs. They were on way to their school.	https://www.hindustantimes.com/punjab/canine-terror-in-patiala-31-dog-bite-cases-every-day/story-gI7E1bM7Cl6iDSOpKH9TjP.html
13/10/2017	Stray dog attacks 15, killed by mob. A stray dog unleashed terror on the Bathinda Road here today. It mauled 15 persons, including some senior citizens. The dog was later killed by the mob and the municipal authorities took the carcass away from the road.	https://www.tribuneindia.com/news/punjab/stray-dog-attacks-15-killed-by-mob/481649.html
20/05/2018	7-year-old boy mauled by stray dogs in Sangrur	https://timesofindia.indiatimes.com/city/chandigarh/punjab-7-year-old-boy-mauled-by-stray-dogs-in-sangrur/articleshow/64245997.cms
18/06/18	Stray dogs maul toddler to death in Chandigarh. The 18-month-old boy was playing with elder siblings when he was attacked by pack of four stray dogs around noon.	https://www.hindustantimes.com/punjab/stray-dogs-maul-toddler-to-death-in-chandigarh/story-i0nQtnfGdZae9w56GQyWOP.html

Date	Incidence	Source
29/10/2018	5-year-old girl dies after dogbite in Ludhiana, parents lodge complaint with MC. Parents came to know about the dogbite when their child started showing symptoms of rabies	https://www.hindustantimes.com/punjab/5-year-old-girl-dies-after-dogbite-in-ludhiana-parents-lodge-complaint-with-mc/story-ygyIC1bfXrLk0bodjp59BL.html
12/11/2018	Ajmer Singh of Bhikhi Town, a farmer hit by a stray cattle in the grain market. The 60-year-old was in the grain market to sell paddy crop. Farmers said Ajmer saw stray cattle destroying his crop. When he tried to drive them away, they attacked and killed him.	https://timesofindia.indiatimes.com/city/amritsar/cultivator-dies-in-stray-cattle-attack/articleshow/66585145.cms
16/03/2019	A stray dog went on a rampage, mauling a two-year-old boy besides biting seven people, including four children, at two colonies on Patiala Road in Zirakpur	https://www.hindustantimes.com/chandigarh/stray-dog-goes-on-biting-spree-in-zirakpur-attacks-8-people-including-kids/story-b5rExU9DDz6sz8l0bZEW4K.html

As it is evident from the information contained in table 1.4 that every second day, print and electronic media have news with photographs showing dog bite victim specially small children with their entire face and other body parts having blood, injuries and so many stitches. Even adults walk with such terror as if they are in the midst of some forest expecting a wild animal to attack. Many a times, suddenly some pack starts chasing and barking bikers and walkers for no reason. Often we are in a situation when we are driving down a road and a cow comes in front of us and it might a collusion leading to severe injuries both animal and humans and moreover if we escape for hitting, the cow is not interested in moving despite you blowing horn repeatedly. Almost a pack of 5-7 street dogs litter in front of main gate of houses in colonies and on the way. It is scary to take a different road in night as there may be a pack of 10-15 street dogs chasing, barking and attacking you.

3.2.2 IMPACT OF STRAY ANIMALS ON CROPS AND LIVESTOCK

The stray animals damage standing crops in the fields. The stray cattle menace has spilled over from cities to villages, grazing down farmers' hopes of a good harvest year after year. In the Bet area, herds of feral cows come out of nowhere at night and

invade the farms in a big way. Large groups of these animals completely ravage the fields they enter in, leaving no scope of defense for the land owner. Wild boars also abound in the area. They destroy other crops like maize and sugarcane and also prey on vegetables. The feral cows are very aggressive and they attack the crops and human beings in a forceful way. They wipe out the entire crop in one stroke and then return to their hideouts.

The damage by stray cattle has broken the farmers economically. Raising fencing is not feasible for the farmers due to high costs. Farming is already a losing proposition in the present times for various reasons. The onslaught of stray animals has dealt a further blow to the farmers. Majority of the farmers feel that the ban on slaughter of cows has compounded the problem. People free their unproductive cattle in urban areas, which pose a safety risk to the commuters particularly in the night when the cattle become invisible. If the useless cattle are let loose in the village side, it leads to community clashes. Bulls which were earlier used to draw carts and till fields, have also become redundant as farmers now rely on machines.

In this way the stray animals have been causing a great loss to the lives and property. As statistics witnessed that More than 150 lives are being lost due to stray animals besides they damage crops in many acres of land and also nearly 400 cases are pending in the court due to stray animals in the state (www.hindustantimes.com).

3.2.3 OTHER IMPACTS OF STRAY ANIMALS

Increasing number of stray animals is an absolute nuisance to the society. They litter/shit anywhere, chase, bite, attack humans. The stray dogs create severe sound pollution by barking through day and night. There are some other nuisance problems also like worrying of walkers and joggers, scavenging of garbage cans, faecal pollution, urine spraying, noise and especially in the case of roaming dogs and cats, neighbourhood friction etc. (Trotmam. M).

CHAPTER – IV

STRAY ANIMAL WELFARE ORGANIZATIONS AND GOVERNMENT POLICIES

To develop an understanding on the problem solving measures initiated by government as well as non-government organizations, an endeavor has been made to map out the active stray animal welfare organizations in the state. The animal welfare organizations, societies and charitable trusts are generally non-profit bodies funded by donations, grants and sponsorships. All the responsible citizens who have a soft corner for animals, birds and wildlife, and is concerned about their welfare, support the cause of these organizations by acquiring their membership, making donations or supporting them in some other way. Different organizations focus on different aspects of animal welfare. Many organizations are running hospitals and health care centers for animals and birds, maintaining mobile dispensaries and keeping ambulance vans for transporting ill and injured animals.

Some of them profess vegetarianism and create public awareness for being kind to the animals. Some others are engaged in establishment of rescue homes, animal shelters, sanctuaries, pinjarpoles, and gaushalas, where animals and birds in distress stay under protection. Sterilization of stray animals and offering pets for adoption are also amongst the activities of some of the organizations. However, despite different fields of activities of different animal welfare bodies and humane societies etc., the basic objective of their efforts is the same i.e. to prevent unnecessary pain and suffering to the animals and to promote their welfare. The government organizations working for the care and protection of stray animals on national and state level are listed in table 4.1. Further a detailed explanation about the establishment, objectives and functions of these organizations is also made in the next part of the chapter.

Table 4.1 List of Animal Welfare Organizations working on National and State Level

National Level Government Organisations	State Level Government Organisations
<ul style="list-style-type: none"> • The Animal Welfare Division-The Animal Welfare Board of India (AWBI) • Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA) • The Ministry of Environment, Forest and Climate Change (MoEFCC) • The Bhartiys Gau Raksha Dal 	<ul style="list-style-type: none"> • Department of Local Bodies, Punjab • Department of Animal Husbandry, Punjab • Department of Rural Development and Panchayats, Punjab • Northern Regional Disease Diagnostic Laboratory (NRDDL) • The Punjab Veterinary Vaccine Institute • Veterinary Polyclinics for Livestock Owners • Civil Veterinary Hospitals (C.V.H.) • Civil Veterinary Dispensaries (C.V.D.)

4.1 NATIONAL LEVEL GOVERNMENT ORGANIZATIONS WORKING FOR ANIMAL WELFARE IN INDIA

A number of government organizations are working directly or indirectly for the welfare of stray animals in the country. The various government organizations working throughout India for stray animals' welfare and protection are mentioned below:

4.1The Animal Welfare Division

It was established with the implementation of the provisions of the 'Prevention of Cruelty to Animals Act, 1960'. Two statutory bodies viz., Animal Welfare Board of India (AWBI) and Committee for the Purpose of Supervision and Control of Experiments on Animals (CPCSEA) have also been set up under this Act. Apart from this there is a subordinate body namely, National Institute of Animal Welfare

(NIAW), Ballabhgarh, Haryana for imparting training and education on diversified subjects in Animal Welfare including animal management, behavior and ethics.

Animal Welfare Board of India (AWBI)

The Animal Welfare Board of India (AWBI) is the Country's Apex body for promoting the welfare of animals. It functions under administrative control of Ministry of Environment, Forest and Climate Change, Govt. of India. The Board was established in 1962 as per the provision of Section 4 of the Prevention of Cruelty to Animals Act, 1960 (No. 59 of 1960).

Through its services, the board ensures that animal welfare laws in the country are diligently followed. It provides grants to animal welfare organizations and advises the Government of India on animal welfare issues. Presently, the AWBI headquarter is in Chennai, Tamil Nadu.

The Animal Welfare Board of India provides financial assistance to the recognized Animal Welfare Organizations (AWOs). The Board continues to be country's single largest funding organization for animal welfare work. Out of 3000 AWOs recognized by the Board, over 500 AWOs, including, NGOs, who had applied for financial assistance, including, gaushalas and SPCAs, have been given financial assistance to carry out animal welfare activities.

Functions of Animal Welfare Board of India

The Animal Welfare Board of India has around 3000 organizations registered with it which are involved in the field of animal welfare. The government has allocated funds for the upkeep of shelters and rescue work. Various schemes are in operation for the statutory obligations under this act. Different types of important functions performed by the board are mentioned as under.

▪ *Recognition of Animal Welfare Organizations*

The board oversees Animal Welfare Organisations (AWOs) by granting recognition to them if they meet its guidelines. The organisation must submit paperwork and agree to nominate a representative of the Animal Welfare Board of India on its executive committee and to submit to regular inspections. After meeting the requirements and an inspection, the organisation is considered for grant of recognition. The AWBI also appoints key people to the positions of animal welfare

officers, who serve as the key point of contact between the people, the government and law enforcement agencies.

▪ ***Animal Welfare Laws and Rules***

The board suggests changes to laws and rules about animal welfare issues. In 2011, a new draft of animal welfare act was published for comments. Guidance is also offered to organisations and officials to help them interpret and apply the laws.

▪ ***Raising Awareness***

The board issues publications to raise awareness of various animal welfare issues. The board's education team gives talks on animal welfare subjects, and trains members of the community to be board certified animal welfare educators.

▪ ***Financial assistance***

The board provides financial assistance to recognised Animal Welfare Organisations (AWOs), who submit applications to the board. Categories of grants include Regular grant, Cattle rescue grant, Provision of shelter house for looking after the animals, Animal Birth Control (ABC) programme, Provision of ambulance for the animals in distress and Natural calamity grant.

Financial assistance is also given for construction and maintenance of animal shelters and water troughs, purchase of veterinary medicines and equipment, providing Gaushalas and AWOs with animal ambulances, facilitating the implementation of animal birth control programmes for controlling rabies and population of stray dogs, and rescue and relief grants to animals affected by natural calamities.

The financial assistance schemes of the board are as follows:

1. Grant-in-aid (Plan Grant) for 'Maintenance of Sheltered Animals' on the basis of number of animals sheltered / treated.
2. Grants for 'Maintenance of Rescued Cattle' from illegal transportation.
3. Grant-in-aid for 'Construction of Shelter Houses and In-House Animal Dispensary' for looking after animals.

4. Grant-in-aid for 'Purchase of Ambulance Vehicles' to provide emergency service to animals in distress.
5. Grant-in-aid for 'Birth Control and Immunization of Stray Dogs' to control the population by sterilization and to reduce the incidence of rabies by immunization in collaboration with the concerned Local Body / Panchayat of the area.
6. Grant-in-aid for relief to animals affected by 'Natural Calamities and Unforeseen Circumstances' such as earth quakes, drought and tsunami etc.

The AWBI provides financial assistance in the form of grants-in-aid to Animal Welfare Organizations (AWOs) registered under the Indian Societies Act.1860 or Indian Trust Act, Co-operative Societies Act, Gaushala Act, Goseva Ayog Act as charitable non-profit making organizations which have been recognized by AWBI. The AWBI recognition is given to the registered charitable non-profit organizations who work primarily for the welfare of animals including Gaushalas/ Panjrapoles. Desirous AWOs/ NGOs/ Gaushalas apply for recognition for promoting animal welfare schemes and after due inspection by the designated Government agencies of the concerned State Government/ State Animal Welfare Boards, application are processed for recognition. The organizations so recognized are eligible for grants only after they complete 3 years of their Registration as charitable non-profit organizations and provide their audited accounts. The procedure for taking grants under various schemes is mentioned as under.

- The applications for grants under various schemes are to be submitted in the prescribed format to AWBI.
- Applications received from the AWOs are scrutinized and eligible applications are placed before the board for sanction of grant.
- Financial Assistance is released in two installments after obtaining audited statement of accounts and utilization certificate for the earlier grants and satisfactory Inspection reports. Applications received for the grants under various schemes from the recognized AWOs/ NGOs/gaushalas are scrutinized as per the guidelines of the schemes and eligible proposals are approved by the AWBI subject to receipt of favorable inspection reports from the designated government agencies of the concerned state government.

4.1.2 Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA)

The Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA) is a statutory committee, which is established under Chapter 4, Section 15(1) of the 'Prevention of Cruelty to Animals Act 1960'. India is one of the pioneering countries to institute 'Prevention of Cruelty to Animals Act' in 1960 whereas such act was instituted in France in 1963 and in USA in 1966. A recommendation to reconstitute the committee for the purpose of control and supervision of experiments on animals was received from Animal Welfare Board of India. After due consideration of the recommendation of AWBI, CPCSEA was set up by this ministry on 8th February, 1991.

The Committee is duty bound to take all such measures as may be necessary to ensure that animals are not subjected to unnecessary pain or suffering before, during or after the performance of experiments on them. For this purpose, the government has made "Breeding of and Experiments on Animals (Control and Supervision) Rules, 1998" as amended during 2001 and 2006, to regulate the experimentation on animals. All establishments engaged in research and education involving animals, are required to comply with the various guidelines, norms and stipulations set out by CPCSEA.

Functions of CPCSEA

- a) Registration of establishments conducting animal experimentation or breeding of animals for this purpose.
- b) Selection and assignment of nominees for the Institutional Animal Ethics Committees of the registered establishments.
- c) Approval of Animal House Facilities on the basis of reports of inspections conducted by CPCSEA.
- d) Permission for conducting experiments involving use of animals.
- e) Recommendation for import of animals for use in experiments.
- f) Action against establishments in case of established violation of any legal norm/stipulation.
- g) Conduct of Training Programmes for the Nominees of CPCSEA.
- h) Conduct / Support of Conference / workshop on animal ethics.

The committee also regulates the use of animals before, during and after use in experimentation. These guidelines define a time limit for which dogs can be tested and/or housed in laboratories. The guidelines are based on the premise that animals in laboratories undergo psychological, physiological and physical trauma, not just from the interventions made on them, but also from solitary confinement, lack of natural conditions, caging, handling and absence of appropriate social interaction.

4.1.3 Ministry of Environment, Forest and Climate Change (MoEFCC)

Ministry of Environment, Forest and Climate Change is the nodal agency in the administrative structure of the central government for the planning, promotion, co-ordination and overseeing the implementation of India's environmental and forestry policies and programmes. The primary concerns of the ministry are implementation of policies and programmes relating to conservation of the country's natural resources including its lakes and rivers, its biodiversity, forests and wildlife, ensuring the welfare of animals, and the prevention and abatement of pollution. While implementing these policies and programmes, the ministry is guided by the principle of sustainable development and enhancement of human well-being.

The Ministry also serves as the nodal agency in the country for the United Nations Environment Programme (UNEP), South Asia Co-operative Environment Programme (SACEP), International Centre for Integrated Mountain Development (ICIMOD) and for the follow-up of the United Nations Conference on Environment and Development (UNCED). The ministry is also entrusted with issues relating to multilateral bodies such as the Commission on Sustainable Development (CSD), Global Environment Facility (GEF) and of regional bodies like Economic and Social Council for Asia and Pacific (ESCAP) and South Asian Association for Regional Co-operation (SAARC) on matters pertaining to the environment.

Objectives of *MoEFCC*

- Conservation and survey of flora, fauna, forests and wildlife
- Prevention and control of pollution
- Forestation and regeneration of degraded areas
- Protection of the environment and
- Ensuring the welfare of animals

These objectives are well supported by a set of legislative and regulatory measures, aimed at the preservation, conservation and protection of the environment.

4.2 NON GOVERNMENT ORGANIZATIONS WORKING FOR ANIMAL WELFARE ON NATIONAL LEVEL

The Bhartiys Gau Raksha Dal – It was incorporated in 2012. The Bhartiya Gau Raksha provides guidance and support in the construction of protective shelters for cattle and is supporting cattle protection movements all over India. This organization is not affiliated with any political party, its members are all volunteers and it was founded by Sh. Pawan Pandit. The organization has offered two different awards to be given to cattle protection movements, namely the "Hindu Ratna Awards" and the "Cattle Guard Honor Awards" (Gau Rakshak Samman Puraskar). Both awards were introduced by Sh. Pawan Pandit, both being given for the promotion of cattle protection.

Purpose of Bhartiya Gau Raksha Dal

Its purpose is to care for stray, abandoned cows, bulls, retired oxen and orphaned calves. It provides them hay, flour, fresh grass, clean water, medical attention and a place where they can recuperate from injuries and stay peacefully and to protect the cows and improve their feeding and living standards and keep them in clean atmosphere. It is also involved in supporting the creation of new cattle protection groups. The organization has already set up more than 32 cattle protection groups in different Indian states. It has spearheaded a campaign against the killing of cattle, filling many complaints against those who were found to be killers.

4.3 GOVERNMENT ORGANIZATIONS WORKING FOR ANIMAL WELFARE IN PUNJAB

The various government organizations are working throughout Punjab for the welfare and protection of stray animals. Many hospitals, dispensaries and laboratories are working for animal health under the guidance and control of state government. On the government level, mainly there are three departments jointly responsible for controlling the dog population and for the management of stray animals in the state.

- Department of Local Bodies, Punjab

- Department of Animal Husbandry Department, Punjab
- Department of Rural Development and Panchayats, Punjab

4.3.1 Department of Local Bodies, Punjab

The Department of Local Government was established in the year 1966 and was given permanent status in the year 1979. The aim of the department is to make the urban local bodies in the State of Punjab to be the best in India. State of the art urban infrastructure, citizen facilitation and efficient service delivery system are the objectives of Urban Local Bodies in Punjab. Certain provisions were made under ‘The Punjab Municipal Act, 1911’ to deal with the several issues related to stray animals in the state. A paragraph has been added in the act under the heading ‘Dangerous Animals’ and mainly four provisions are added regarding different types of stray animal under four sections i.e. section 109- Disposal of mad and stray dogs and other animals, section 110- Suffering dogs to be at large, section 111- Control of elephants, bears or camels, section 112- Elephants along public roads. The provisions regarding these sections are mentioned as under:

Section 109- Disposal of mad and stray dogs and other animals

(1) The committee may

(a) authorise any person -

- (i) to destroy, or cause to be destroyed, or confine, or cause to be confined for such period as the committee may direct, any dog or other animal suffering, or reasonably suspected to be suffering from rabies, or bitten by any dog or other animal suffering or suspected as aforesaid;
- (ii) to confine, or cause to be confined, any dogs found wandering about streets or public places without collars or other marks distinguishing them as private property and charge a fee for such detention and destroy or otherwise dispose of any such dog if it is not claimed within one week, and the fee paid ;

(b) issue a temporary or standing order that any dog without collars or other marks distinguishing them as private property, found straying on the streets or beyond the enclosures of the houses of the owners of such dogs may be

destroyed and destroy or cause them to be destroyed accordingly. Public notice shall be given of any such order.

(2) No damages shall be payable in respect of any dogs or other animal destroyed or otherwise disposed of under this section.

Section 110- Suffering dogs to be at large - Whoever, being the owner or person in charge of any dog, neglects to restrain it so that it shall not be at large in any street without a nuzzle-

(a) if such dog is likely to annoy or intimidate passengers, or

(b) if the committee has by public notice during the prevalence of rabies directed that dogs shall not be at large without muzzles. shall be punishable with fine which may extend to twenty rupees.

Section 111- Control of elephants, bears or camels - Whoever, being in-charge of any elephant, camel or bear, omits on being requested to do so to remove as far as may be practicable his elephant, camel or bear, to a safe distance of a horse whether ridden or driven, shall be punishable with fine which may extend to twenty rupees.

Section 112- Elephants along public roads - Whoever, contrary to any orders of the committee, takes an elephant along a street shall be punishable with fine which may extend to twenty rupees.

4.3.2 Department of Animal Husbandry, Punjab

The Department of Animal Husbandry and Dairying (AH&D) - now renamed as Department of Animal Husbandry Dairying & Fisheries (DADF) is one of the departments in the Ministry of Agriculture and came into existence w.e.f. 1st February, 1991, by converting two divisions of the Department of Agriculture and Cooperation namely Animal Husbandry and Dairy Development into a separate department. The Fisheries Division of the Department of Agriculture and Cooperation and a part of the Ministry of Food Processing Industries were later transferred to this department w.e.f. 10th October, 1997.

The department is responsible for matters relating to livestock production, preservation and protection from diseases, improvement of stocks and dairy

development and also for matters relating to the Delhi Milk Scheme and the National Dairy Development Board. It also looks after all matters pertaining to fishing and fisheries, inland and marine.

The department advises State Governments/Union Territories in the formulation of policies and programmes in the field of Animal Husbandry, Dairy Development and Fisheries. The main thrust areas are:

- Development of requisite infrastructure in States/UTs for improving productivity.
- Preservation and protection of livestock through provision of health care.
- Strengthening of Central livestock farms (Cattle, Sheep and Poultry) for development of superior germ plasm for distribution to states.
- Expansion of Aquaculture in fresh & brackish water, and welfare of fisher-folk etc.

Livestock plays an important role in the rural economy of the state. Animal husbandry activities have attained importance as they create self employment opportunities as well as subsidiary occupation to the weaker section of the society. With a view to increase the production of various livestock products like milk, eggs, wool and meat animal husbandry department has chalked out an ambitious program for the development of various species of livestock .The milk production and egg production in the state has already made commendable achievement and per capita availability of milk and eggs in Punjab is highest in the country. Efforts are still going on to further increase milk production and other major livestock products in the state by providing Scientific Breeding Technique and Effective Health Cover.

Objectives of Department of Animal Husbandry, Punjab

- a) To improve the Genetic Potential of the Livestock through Scientific breeding.
- b) To provide Efficient and Effective Health Cover to the livestock wealth of the state.
- c) To provide Improved Feeding and Management Practices.
- d) To provide Effective Extension Services in the field of animal husbandry.

4.3.3 Department of Rural Development and Panchayats, Punjab

The Department of Rural Development and Panchayats is responsible for the implementation of various centrally sponsored and state funded schemes for poverty alleviation, employment generation, sanitation, capacity building, women's social and economic empowerments, apart from provision of basic amenities and services.

The guiding and driving force of Rural Development and Panchayats Department is to endow the panchayats (Gram Panchayats, Panchayat Samiti and Zila Parishad) with such powers and authority as may be necessary to enable them to function as institutions of self govt. in rural areas of the state. 73rd amendment of constitution of India has provided social scenario with assured participation of rural people especially women folk and weaker section of society, in achieving their envisaged aspirations and other needs. There are 13,262 Gram Panchayats and 150 Block Samitis and 22 Zila Parishads under the Preview of the department. The Department of Rural Development and Panchayats is assigned with the duty of assisting the PRIs in discharging of its constitutional obligations.

The main functions and duties of the offices and employees working in the department are providing administrative frame-work for smooth functioning of the PRIs, rendering assistance in implementing schemes and projects through PRIs. It extends the technical support and know how to PRIs in order to execute various development schemes at the different levels. It also provides appropriate forum for redressal of grievances of rural people concerning the departments. It arranges training programme and courses suitable to cater to the needs of PRIs and rural masses. Rendering help in connection with election of PRI bodies, affording forum of planning at the micro level and consolidating them at the district level through constitutional bodies of State District Planning Boards, providing frame work of quasi judicial courts of collector and commissioner to regulate and utilize the shamlat land for the benefit of Panchayats and also to protect the common property of the PRIs, It mobilizes women of the rural area to make them aware of their social needs and strengthen their economic status.

4.3.4 Northern Regional Disease Diagnostic Laboratory (NRDDL) Jalandhar

NRDDL, Jalandhar provides below mentioned laboratory services for animal health diagnostics:

1. Diagnosis of various diseases of livestock and poultry in northern region of India including Punjab, Jammu & Kashmir, Himachal Pradesh, Rajasthan, Haryana, Delhi and Chandigarh.
2. To impart disease diagnostic related trainings to veterinarians and parapets regarding diagnosis of livestock diseases.
3. To investigate animal and poultry disease outbreaks in the northern region of India.
4. To evaluate semen of bulls from various semen stations for sexually transmitted disease.
5. Surveillance and monitoring of national and international significant disease like; BSE, Bird Flu, FMD etc.

4.3.5 Punjab Veterinary Vaccine Institute

Punjab Veterinary Vaccine institute was set up in Ludhiana in the year 1971 with the purpose of manufacturing of various biological products required for the control of different contagious diseases among livestock including poultry. By now the institute has gained self sufficiency in meeting the requirements of following biological products: Bacterial Vaccine- H.S. (Alum P.P.T) Vaccine, Enterotoxaemia, Black Quarter Vaccine. Viral Vaccines: Ranikhet F-1 Strain, R2b Vaccine, Fowl Pox Vaccine, Swine Fever Vaccine. Antigens: Salmonella Pullorum Coloured Antigen, Brucella Abortus Coloured Antigen, Brucella Plain Antigen, Brucella Milk Ring Testing Antigen. Beside this, the Institute has been meeting the requirements of some of the vaccines of other neighboring states also.

4.3.6 Veterinary Polyclinics for Livestock Owners

Every district of Punjab is having veterinary polyclinic for providing treatment of various diseases by team of expert doctors. The main purpose is to different health services. The services provided are as follows OPD, Surgical Specialization Services, Gynecological Specialization Services, Microbiological & Pathological Services, Emergency services and Ambulatory facility.

4.3.7 Civil Veterinary Hospitals

There are 1367 Civil Veterinary Hospitals (CVH) in Punjab established with a purpose to provide veterinary health services for domestic and stray and wild life animals. It includes artificial Insemination in cattles and buffaloes, several test facilities through diagnostic laboratories at Tehsil level hospitals, issue of health certificates and postmortem certificates, conducting mass vaccination/ de-worming programs, conducting veterinary health and fertility camps, providing technical advisories/ project reports and publicity of departmental schemes and extension activities.

4.3.8 Civil Veterinary Dispensaries

There are 1489 Civil Veterinary Dispensaries (CVD) in Punjab. CVD has established with a purpose to provide veterinary first aid and minor health services for animals, artificial Insemination in cattle and buffaloes, conducting mass vaccination/ de-worming programs and providing technical advisories and publicity of departmental schemes and extension activities.

4.4 NON GOVERNMENT ORGANIZATIONS AND PRIVATE ORGANIZATIONS WORKING FOR ANIMAL WELFARE IN PUNJAB

In this part of the study, an endeavor has been made to identify the active stray animal welfare organizations in the state. The support of NGOs and private organization is importantly required to tackle the menace of stray animals in the state. Different organizations are working throughout the state for the welfare and management of stray animals. Many organizations are running hospitals for animals, keeping ambulance vans for transporting ill and injured animals, sterilization of stray animals, developing and creating gaushalas.

As per data shown in table 1.3, the five worst-hit dog bite districts of Punjab are Ludhiana, Patiala, Jalandhar, Hoshiarpur and Sangrur. Therefore, an attempt has been made to explore the non-government organisations working for the welfare of stray animals in these five districts.

Table 4.2 Animal Welfare Organizations in most Dog Bite affected Districts of Punjab

Sr. No.	Name and address of the NGO	District	Phone	Activity Field
1.	Animal Welfare NGO, Manawala, Amritsar	Amritsar		<ul style="list-style-type: none"> ➤ Rescue operations for wild street and domestic animals ➤ 24 hours Ambulance services for animals ➤ Events for animals at NGO to make them happy ➤ Animal Specialist doctors are available here for 24 hours ➤ Taking serious actions for the rights of animals
2.	Amritsar SPCA, Outside Hathi Gate, Amritsar	Amritsar	91 (183) 43 638 /31714	Provides animal transport and shelter
3.	Krishna Kiran Welfare Trust Amritsar	Amritsar	9152695283	Preserving farm ecosystem for animals
4.	Hirwains World Organisations	Amritsar	8303842388	Nutritious Food and shelter for orphaned animals
5.	Pinjar Pole, Gaushala, Ghee Mandi, Amritsar	Amritsar	183- 22501593	Cow care activities and shelter.
6.	Care of Animals & Protection of Environment-India (CAPE-India) BXXIV-2696/1A, Opp. King Palace, Sunder Nagar, B. Jodhewal, Ludhiana	Ludhiana	9888482696	<ul style="list-style-type: none"> ➤ Rescue and rehabilitation of wildlife, enforcement, training, coordination with various animal welfare organizations, Government Departments and wildlife officials.
7.	Ludhiana SPCA 100 D.B.R.S. Nagar	Ludhiana		<ul style="list-style-type: none"> ➤ Prevention of stray animals. ➤ Dog adoption

Sr. No.	Name and address of the NGO	District	Phone	Activity Field
8.	PFA Ludhiana Hospital and Shelter -Ludhiana	Ludhiana	0161-4637011	<ul style="list-style-type: none"> ➤ Neuter surgeries for local dogs and cats. ➤ Medical facilities to rescued and injured animals.
9.	People For Animals Ravi Gill, s/o Prof. Gurmail Singh, VPO. Rahoun, Tehsil Khanna, Dist. Ludhiana, Punjab	Ludhiana	9814281331998 8441953	
10.	Animal Rescue Mission & Welfare Society (ARMWS),	Ludhiana		<ul style="list-style-type: none"> ➤ Care to abandoned, neglected, and injured animals; and negative relationships with native wildlife
11.	Dhyan Foundation, Ludhiana:	Ludhiana	9814049408	<ul style="list-style-type: none"> ➤ Reinforce a standard of living for animals and prevent cruelty.
12.	Gau Vansh & Pashu Chikitsa, Gau Vansh and Pashu Chikitsa Warg Patiala	Patiala	0991556046	<ul style="list-style-type: none"> ➤ Provide assistance and medical care to injured, orphaned, or ill cows. ➤ Provide ambulance services.
13.	Gau Sewa Samiti Arya Samaj Chowk, Patiala	Patiala	9653996539	Animal shelter and medical facilities
14.	Janhit Sewa Samiti, Patiala	Patiala	9356790005	Animal shelter and medical facilities
15.	Sai Ji Animal Care Society, Quarter No 1303, Site 2, Patiala	Patiala	7307990002 9569502324	Educate the community on humane care and interactions with all animals with the goal of reducing pet overpopulation
16.	Saji Animal Care Society, Patiala	Patiala	009569502324	Reunite lost pets with their caregivers or seek new families for them.

Sr. No.	Name and address of the NGO	District	Phone	Activity Field
17.	Guardians of the Voiceless,1063/2, Deshraj Street, Patiala	Patiala	98721-99856	Handles injured animals and provide medical facilities to ill animals
18.	Sai Ji Animal Care Society, Quarter No. 1303, Site 2, Ajit Nagar, Patiala	Patiala	73079-90002	Cares for ill and injured animals and provide routine medical facilities to animals
19.	Gau Raksha Dal, Shri Krishna Gaushala, Rajpura Colony, Patiala	Patiala	77428-03805	Provides shelter and food for cows
20.	Hirwains World Organisations	Patiala	91528-90766	Animal shelter and medical facilities
21.	Healing Hands, Patiala	Patiala	099141 46532	The service of stray animals which is the need of the hour. It is amazing to see such compassionate and selfless people in today's time
22.	Krishna Kiran Welfare Trust	Patiala	91526-95283	Provides shelter and food for cows
23.	Jeev Welfare Society , 49 Tower Town, Near TV Tower, Khurla, Khurla Kingra, Jalandhar - 144003	Jalandhar	0 1140118952	Rescue of abounded animal
24.	Kamdhenu Gaushala, Nurmahal Road, Uppal Jagir, Jalandhar - 144039	Jalandhar	9779320008	Runs Indian Cow Breed Improvement and Conservation Program
25.	Jalandhar SPCA Dy. Commissioner's Office, Jalandhar	Jalandhar		Provides animal shelter and food
26.	People For Animals Address: 42 Gurmeet Nagar, Model Town, Mithapur Road, Jalandhar	Jalandhar	9814258726	<ul style="list-style-type: none"> ➤ Facilitate rescue and rehabilitation for stray animals. ➤ Promote vegetarianism. ➤ Educate and sensitize

Sr. No.	Name and address of the NGO	District	Phone	Activity Field
27.	PFA Jalandhar Shelter Address – People for Animals and Animal Line, Police Line, Near Bus stand, Jalandhar-144003	Jalandhar	9814258726	people for animal welfare. ➤ Liaise with national and international animal welfare groups. ➤ Provide career opportunities in animal welfare.
28.	People For Animals Street No.9, B-20, (Behind Green View Park), Hoshiarpur- 146001, Punjab	Hoshiarpur	9988520510	
29.	Gau rakshak Mandal, Sangrur	Sangrur	9417232680	➤ Provide shelter for abandoned cows.

As per data shown in Table 1.4, different types of non government and private organizations are working for the care and protection of stray animals in their own different ways. Details of some prominent organizations have been included in the under-mentioned paragraphs.

4.4.1 People for Animals (PFA)

People for Animals, a non government organization is famously known as PFA, is the largest animal welfare organization with a nationwide network of 26 hospitals, 165 units and 2.5 lakh members. It works to rescue and rehabilitate sick and needy animals. It sets up and run shelters, ambulance services, sterilization programs, treatment camps and disaster rescue missions for animals. It conducts education programs in schools, fight cases in court and lobby on animal issues in parliament. The PFA units are situated in Hoshiarpur, Ludhiana, Khanna and Jalandhar city. Its activities include animal ambulances, veterinary hospital, free mobile veterinary camps, Animal Birth Control (ABC) programme, shelter and awareness programmes.

4.4.2 Society for the Prevention of Cruelty to Animals (SPCA)

It is a common name for non-profit animal welfare organizations around the world. The first SPCA organization was founded in England in 1824. SPCA organizations operate independently of each other and campaign for animal welfare, assist in the prevention of cruelty to animals cases, rehabilitation and finding homes for maltreated and unwanted animals that can be reestablished into new homes. Policies

regarding animal euthanasia, handling feral cats, and similar issues vary by organizations in different regions.

The SPCAs working all around the world are independent of one another and are not affiliated in any way. Every SPCA has its own governing policies, financial reports, board of directors, and organizational goals. These are situated in Chandigarh, Hoshiarpur, Ludhiana, Ropar, Gurdaspur, Moga and Jalandhar cities of Punjab. Its activities include Animal hospitals, Animal ambulance, Shelter, Providing food to animals, Awareness, Animal Birth Control (ABC) Programme and Vaccination.

4.4.3 Pet Animal Welfare Society (PAWS)

It is a non government, non profitable, registered animal welfare organization. It works for prevention of cruelty towards animals and a better environment for mankind. 'PAWS' is recognized by Animal Welfare Board of India which is a government body. PAWS came into existence in 1998 and started working the very same day. The purpose of the society is to make people aware about the care, management and nutrition of pet and stray animals.

4.4.4 Care of Animals & Protection of Environment- India (CAPE- India)

It is situated in Ludhiana. Its main purpose is to rescue and rehabilitation of wildlife, enforcement, training and coordination with various animal welfare organizations, government departments and wildlife officials.

4.4.5 Punjab Gaushala Mahasangh

It is a large scale non-governmental organization, registered with 167 gaushalas, located in various districts of Punjab with head quarter registered in Sangrur under the name Punjab Gaushala Mahasangh. Normally all gaushalas are supported by public charity only. They even accept fodder/grass gratefully for these gaushalas. These gaushalas work as shelter for stray cows. It works for the welfare of cows, their treatment and better upkeep facilities throughout the state of Punjab.

4.4.6 Animal Welfare in Amritsar

Animals Welfare NGO in Amritsar is a big organization working for animals. It has taken a step towards animal welfare in India. The whole team is caring towards animals' services. It care of animals in all aspects and look after all their basic needs. It saved thousands of animals' life till now, trying best to improve work. The

organisation aims to reach in all corners of India and leading towards a drastic change to the economy of India.

4.4.7 Naujawan Samaj Sewa Sanstha, Fazilka

Its aim is Beti Bachao Beti Pado, Save Cow, Donate Blood on Emergency, Save Life, Child Protection, Campaign Against Dowry, Drugs & Child Labour. Its aim is control the violence in society.

4.5 CENTRAL GOVERNMENT POLICIES FOR THE MANAGEMENT OF STRAY ANIMALS

As per the available information and data, different laws and acts are enacted in country for the care and protection of animals. Different states have their own bye laws as per the type of animals existing in their state e.g. Assam was suffering with elephants and it made rules and regulation to tackle the menace created by elephants in the state. Likewise many metropolitan cities' municipal corporations have made some plans to look after their areas regarding stray animal problems. Therefore, till date there is no specific national policy dealing with the stray animals in the country. Centre government has framed various schemes/programs at different points of time to protect animals and to control their population. Some of the specific programs are discussed as under.

4.5.1 ANIMAL BIRTH CONTROL (ABC)

India's national policy for dog population and canine rabies control, called the Animal Birth Control (ABC) programme, was developed by the Animal Welfare Board of India (AWBI), and has been implemented in various cities since 1994. The Ministry of Health has never been involved in the control of a fatal yet totally preventable disease like rabies. Based on the ABC programme, the Ministry of Culture issued the Dog Control Rules, 2001, even though the ministry has nothing to do with public health, disease control, and/or animals.

Animal Birth Control Rules 2001- were framed, under Section 38 of the 'Prevention of Cruelty to Animals Act 1960', as per the orders of Honorable Supreme Court of India. Since the 1960s, ABC programs coupled with rabies vaccination have been advocated as a method to control urban street male and female dog populations and ultimately human rabies in Asia. The rationale is to reduce the dog population turnover as well as the number of dogs susceptible to rabies.

Animal Birth Control Program comprises of two components:

1. Sterilization of street dogs, which is the surgical removal of their sex organs (specifically, surgical removal of uterus in case of female dogs and surgical removal of testicles of male dogs)
2. Administration of an Anti Rabies Vaccine, prior to the dogs being released in the same area where they were picked up from.

Advantages of Animal Birth Control Programme

1. Sterilization helps calm the dogs down and restricts their numbers.
2. There is scientific thought behind restoring a sterilized dog to his original habitat. Dogs are territorial animals. They mark out their territories based on the food available and they do not let outsiders come in. When these local dogs are removed from their territory, other dogs move in to occupy them. These may not be sterilized so the problem continues for that locality. Dog fights increase as any new dog entering a territory is attacked by the dogs already in that area and non-sterilized dogs continue to mate and produce litters. Rabies continues to spread as none of the dogs in that area are vaccinated against it. The new dogs are hostile to the residents so problems of safety continue. A sterilized and vaccinated dog doesn't breed, they guard their territory from intruders and new dogs, and they become docile and don't fight with other dogs during the mating season.
3. Getting dogs sterilized is the best form of welfare we can all do for street dogs, as these dogs will be vaccinated in the process and will not have to give birth to pups anymore.
4. Only Dogs above the age of 4 months can be picked up for sterilization and the right ear of sterilized dogs is cut at the tip as a mark of identification.

4.5.2 NATIONAL RABIES CONTROL PROGRAM

Rabies is an acute viral disease that causes fatal encephalomyelitis in virtually all the warm-blooded animals including human. The virus is found in wild and some domestic animals, and is transmitted to other animals and to humans through their saliva (following bites, scratches, licks on broken skin and mucous membrane). In India, dogs are responsible for about 97% of human rabies, followed by cats (2%),

and others (1%). The disease is invariably fatal and perhaps the most painful and dreadful of all communicable diseases in which the sick person is tormented at the same time with thirst and fear of water (hydrophobia). Fortunately, development of rabies can be prevented to a large extent if animal bites are managed appropriately and in time. In this regard the post-exposure treatment of animal bite cases are of prime importance.

National Centre for Disease Control (formerly National Institute of Communicable Diseases), Delhi, WHO Collaborating Centre for Rabies Epidemiology, organized an expert consultation in 2002 to formulate national guidelines for rabies prophylaxis to bring out uniformity in post-exposure prophylaxis practices. Due to new interventions in this field, it has been further revised over the years. Under the 12 five-year plan, National Rabies Control Programme (NRCP) has been approved. The NRCP has both human and animal health components.

- **Human Component** - National Centre for the Diseases control is the nodal agency for the Human Component of the program. The strategies for the human component are:
 - Training of health professionals
 - Implementing use of intra-dermal route of inoculation of cell culture vaccines
 - Strengthening surveillance of human rabies
 - Information Education & Communication
 - Laboratory strengthening
- **Animal Component**- Animal Welfare Board of India, Ministry of Environment & Forests is the nodal agency for the animal component of the program. The strategies for the animal component are:
 - Population survey of dogs
 - Mass vaccination of dogs
 - Dog population management

4.6 STATE GOVERNMENT POLICIES FOR THE MANAGEMENT OF STRAY ANIMALS

The issue of the stray animals' management is regularly raised in the state assembly. In Punjab, the three departments – Department of Local Bodies, Department of Rural Development and Panchayats and Department of Animal Husbandry are jointly responsible for controlling the stray population. The state of Punjab is attempting to address its stray animal's problem for the last four decades. Many Laws and Rules are being administered by the concerned department.

Punjab government produced byelaws, issued by its local government department, which have been circulated to all municipal corporations and municipal councils, directing them to adopt these laws. According to the byelaws, payment of compensation of Rs. 1 lakh would be given in case of death caused due to attack by any stray animal. The word 'animal' includes buffalo, horse, bull, calf and dog. Even in case of a disability resulting from attack by an animal, the compensation in proportion to the extent of disability up to Rs 1 lakh shall be payable (www.timesofindia.indiatimes.com).

The Animal Birth Control (Dogs) Rules, 2001, say that every district has to look after the population control and sterilization of stray dogs. The Department of Rural Development & Panchayats and Department of Local Bodies also have to establish a sufficient number of dog pounds, including kennels/shelters, to keep the captured animals, and get survey of stray dogs conducted regularly.

According to the livestock census that is conducted every 10 years, the total population of stray dogs in Punjab's urban areas was 80,727 (62,986 males & 17,741 females). The rural areas figure was 3, 89,831 (3, 00,072 males & 89,109 females). The total stray dog population in both rural and urban areas came out to be 4, 70,558 (3, 63,708 males & 1, 06,850 females).

The state government's affidavit in the Punjab and Haryana high court stating that Punjab has only 59,806 stray dogs has left many animal rights activists shocked. As per the 19th livestock census held by the centre in 2012, the stray dog population in Punjab was 4, 70,558 stray dogs. How the state government managed to 'eliminate' over four lakh stray dogs in three years and that too in the absence of any visible

effective measures remains a mystery, claim activists. Shockingly, the 19th state census held in 2014 also says that Punjab has nearly 3.8 lakh stray dogs. The Society for People's Welfare & Awareness, an NGO in Patiala, which had some time back raised the issue of stray dog menace across the state, claimed the Punjab government has fudged the stray dog figure (www.hindustantimes.com).

CHAPTER – V

FINDINGS, SUGGESTIONS AND CONCLUSION OF THE STUDY

Nowadays, the population of stray animals in Punjab is increasing at break-neck speed. Every day one can hear cases of dog bites and cow/bull attacks. The recent cases in print media always left us terrified. Stray dog menace has reached an alarming stage. Many children are bitten by stray dogs and receive serious injuries. Basically, dogs are scavengers and open garbage dumps are easy source of food for them. Besides, many residents feed dogs at their door steps. Dogs develop territorial habitats. During breeding season, they become quite aggressive and attack passersby. The female does so to protect pups.

Under the prevention of cruelty to animals, culling is prohibited. The option to control dog population is sterilisation, where in government agencies have not been effective. The Municipal Corporations have miserably failed in tackling dog bites in the cities. Every area, layout, street and road is infested with stray dogs and cows. As per research outcomes the overflowing garbage bins have increased the problem manifold.

5.1 FINDINGS OF THE STUDY REGARDING IMPACT OF STRAY ANIMALS ON PUBLIC HEALTH AND SAFETY

It is evident from the results that stray animals have many negative impacts on social life, health and environment. Cattle blocking traffic on busy stretches across the cities are common sight. There are many cases of accidents due to stray cows and driving in a road full of traffic and stray cows is really a pain. The menace of stray cattle turns out to be more prominent in the rainy season and motorists just have no idea which is their biggest concern, the rain, puddles of water and mud on the road, man holes, traffic or these cattle that have come out of their sheds.

Stray dogs are no less menace than the stray cows, the bovines move in packs of 6-7 dogs, often erupting into fights, barking incessantly at pet dogs taken out for walks, lingering around kids play areas in packs, chasing vehicles on the main roads. Most of these dogs have never been vaccinated and there may be a chance of getting rabies if one of these dogs happens to bite any passerby. The residents of the state are

struggling with the problem of stray animals. The stray cattle nap on busy roads, block traffic and cause traffic jams and accidents. Dog bite cases in the state have increased as no measures have been taken to tame the stray dogs, which are a terror in remote areas. Canine menace is increasing day by day creating problems for those venturing out into streets. Main reason for the menace is open garbage in streets. Stray dogs scavenge on garbage.

5.2 FINDINGS REGARDING ORGANIZATIONS WORKING FOR THE WELFARE OF STRAY ANIMALS IN THE STATE

The findings of the research clearly indicate that the stray animal menace is not in the objective list of any of the three departments responsible for the management of strays in the state. Moreover the Municipal Corporations are assigned with the task to catch and sterilize the millions of stray animals when they are already complaining about lack of resources to provide even water and sanitation services. The municipal corporations in Punjab are running Animal Birth Control (ABC) projects to keep the number of stray dogs in check. Under the programme, workers are required to catch the dogs, neutralize and then release them. However, with rising cases of dog bites, it has become clear that the municipal corporations need to set up specific cells in order to control the number of stray dogs.

- As per the stakeholders' responses, the state has negligible machinery to catch the marauding animals which are in such a high number. The corporation leaders are reluctant to rein in the strays and the cattle catchers are scared and disinterested in their work due to insufficient safety arrangements.
- The lack of trained man power with the municipal corporation to catch and load them in a vehicle is also a major problem.
- Moreover, municipal corporations have no system to keep the animals even if they are trapped. Not enough well trained veterinary surgeons, not adequate facilities for post operative care and it results in cruelty, mismanagement and death of animals.
- In certain regions, lack of gaushalas with adequate space and the tendency of residents to leave their useless cattle in the neighboring towns/cities is the main cause of issue.
- The authorities are lacking the will to control the rise in number of dogs. Lot

of public money is being spent on sterilising dogs, but the results are not achieved.

- The dispensaries do not have required staff and sufficient stock of anti-rabies vaccine. These are not fully equipped with medicines and vaccines. The people bitten by dogs are more harassed as they do not get treatment immediately.
- Free roaming or wandering of cattle is also caused by unauthorized or unlicensed roadside dairies and it creates a chaos in the residential areas, shopping area, in front of schools and on highways. Till date, state government has no mechanism to keep a complete check on these dairies and to control the menace created by their cattle.
- Punjab also has fewer government and NGO services that deal with stray dogs. The increasing population of stray animals can be handled effectively with the help of these organizations.

Important court cases confirming the duties of the municipal committee to take the control of stray animals are mentioned as under:

Sushma Rani vs State Of Punjab, 24 February, 2016: A housewife, prayed for compensation for the death of her husband Vidya Bhushan, killed by a stray bull on 01.02.2014, when he was going to the construction site of his house on his moped. Deceased Vidya Bhushan was taken to the Civil Hospital, Mandi Gobindgarh in an ambulance by the neighbors, where he succumbed to the injuries caused by the bull.

The petitioner, who is now left with her 18 years old daughter, studying in 12th class, alleged to be at the mercy of her relations, moved an application for compensation to the respondents

"Without going into the merits of the case or commenting thereon, the present petition is disposed of with directions to The Deputy Commissioner, District Fatehgarh Sahib, Punjab and The Municipal Corporation through its Executive Officer, Mandi Gobindgarh, District Fatehgarh Sahib, Punjab, respondents No. 2 and 3 respectively to consider and decide the applications of the petitioner dated 21.01.2015, within a period of three months from the date of receipt of certified copy of this order.

In case the claim of the petitioner is accepted, the consequential benefits, if any, be

released to her within a further period of two months. In case the claim of the petitioner is not to be accepted, a well- reasoned and speaking order be passed and conveyed to her forthwith." Thereafter, the Deputy Commissioner, Fatehgarh Sahib passed the order on 23.7.2015, the relevant portion of which reads as under: "That I have thoroughly examined the case and explored all the possibilities available in this case.

The petitioner has alleged that the death of her husband was due to injuries caused by a bull. As per the police report, the person has been killed in an accident with a bull. **Though it is one of the duties of the Municipal Committee to take care of such stray animals but no provision is available in Municipal Act, 1911 to provide compensation to the family of the deceased if any such incident occurs (CWP No.23932 of 2015).** Also, it is pertinent to mention that the case of granting compensation to the deceased in such cases is not covered under any rules or policies of the Government of Punjab. The provisions of the Chief Minister Relief Fund also do not cover such type of cases. Also no compensation can be provided to the family of the deceased by the Red Cross Society, Fatehgarh Sahib as the case is not covered under the norms of the society. The deceased could have been compensated, had he taken any insurance to cover accidental death in such accidents. The petitioner has not mentioned anything to this effect, therefore, it cannot be commented upon.

The husband of the Applicant died in though an extremely unfortunate & tragic accident but in the absence of any provision/policy in Government to grant compensation in such accidental death, no compensation can be given to the family of the deceased person.

The petitioner has again approached this Court seeking compensation. Notice was issued by this Court not only to the respondents but to the State of Haryana as well to find out as to whether any provision has been made by the State of Haryana for compensating persons like the petitioner, in case of injury/death by a stray cattle/animal.

Learned counsel for the state of Haryana has produced a Notification dated 27th April, 2007 notifying the Haryana Municipal (Registration and Proper Control of Stray Animals) Bye-laws 2006 in which "cattle pound" has been defined in clause (e) of para 2 of the Bye-laws, which means an enclosure where all types of stray animals

are kept after being impounded. Stray animals have been defined in clause (j) of para 2 of the Bye-laws, which means an ownerless animal (male- female) as defined in clause (b) of section 2 found straying within the municipal limits; and clause (b) of para 2 of Bye-laws defines "animal", which means any he/she buffalo, horse, camel, cow, calf, bull, pony, donkey, goat, sheep, pig, elephant, neal gayen, deer etc. Para 10 of the Bye-laws further provides that all the revenue collected by way of registered/renewal fee and penalty charges shall be used for the following purposes, namely:

- (a) For maintenance of cattle pound
- (b) For payment of compensation to the victims of stray cattle
- (c) For payment of premium for third party insurance of registered animals
- (d) Cost of identification and veterinary health care of stray animals

In so far as the State of Punjab is concerned, a short reply by way of a short affidavit dated 06.1.2016 of the Director- cum-Special Secretary Local Government, Punjab, Chandigarh has been filed stating that though the Department of Local Government, Punjab has issued bye-laws, 2006 regarding stray animals but no provision has been made for compensation in case of accidental death by the stray animals.

Learned counsel for the petitioner has referred to Section 323 (4) of the Punjab Municipal Corporation Act, 1976, which says that "any animal found straying as aforesaid may be removed by an officer or employee of the Corporation or by any police officer to a pound. It is submitted that post-mortem report of deceased Vidya Bhushan and the police report leaves no doubt about the manner in which the death of Vidya Bhushan has occurred. Learned counsel for the respondents did not cite any judgment to deny the right of the petitioner to claim compensation on the death of her husband Vidya Bhushan except for submitting that the petitioner may ask for compensation by filing civil suit as disputed questions cannot be decided in writ petition.

The deceased Vidya Bhushan was stated to be 54 years of age. He has left behind his widow, who is housewife and a daughter of 18 years, studying in 12th class. There is no other earning member in the family.

According to the police report, the death had occurred because the stray bull hit Vidya Bhushan and as per the post-mortem report, deceased Vidya Bhushan suffered as many as 16 injuries. He had multiple rib fractures on both sides, which were pushed inside. The Court is, thus, satisfied that the death of Vidya Bhushan has been triggered with the attack of stray bull. The earlier writ petition filed by the petitioner, was simply disposed of with a direction to the District Authorities to consider and decide the application of the petitioner for compensation but her application was dismissed by the Deputy Commissioner, Fatehgarh Sahib, who has admitted in his order dated 23.7.2015 that it is one of the duties of the Municipal Committee to take care of such stray animals but no provision is available in Municipal Act, 1911 to provide compensation to the family of the deceased if any such incident occurs. He also observed therein that grant of compensation to the family of the deceased in such cases is not covered under any rules or policies of the Government of Punjab. The provisions of the Chief Minister Relief Fund also do not cover such type of cases and no compensation can be provided to the family of the deceased by the Red Cross Society, Fatehgarh Sahib as the case is not covered under the norms of the society. Rather, it is observed that the deceased could have been compensated, had he taken any insurance to cover accidental death in such accidents. Except for expressing sympathy with the family of the deceased for the unfortunate & tragic accident, nothing else was given by the respondent-State to the petitioner in the name of compensation.

The Court would deal with this aspect in the later part but as regards question of compensation is concerned. In Shakuntala's case (supra), the deceased was a fruit vendor, carried on his trade from a roadside "Redi/Thela" (hand-cart). On the fateful day, he was selling fruits, when two fighting bulls came by and in the ensuing melee he fell, got entangled between the fighting bulls and was badly mauled. He was shifted to the hospital but finally succumbed to the injuries, which, as per postmortem report, were possible by assault of bull. Hon'ble Delhi High Court on the basis of the inquest report and post-mortem report, which established the case on facts that the death had occurred because of the attack by the bull, held the Municipal Corporation, Delhi negligent as it did not ensure proper supervision of the area, to avoid the menace of stray cattle by which such kind of accident could have been prevented, saving the life of a human being, held it liable to pay compensation to the tune of Rs.10 lacs.

In Parmeshwar's case, deceased, who was 12 years of age, was sitting on the stairs near his residence when two wild undomesticated bulls appeared and began fighting. Though, the deceased tried to move towards his house to save himself but got entangled in the fight and was grievously hurt. He was taken to the hospital but at last succumbed to his injuries. The Court awarded `7.57 lacs on account of death of boy aged 12 years because there was no denial to the factual incident.

In Parminderjit Kaur's case, an Engineer working in Irrigation Department standing along with his friend outside his office, was hit by stray animal from the back and suffered grievous injury. He was taken to the hospital, where he was declared dead. The court had found that as per Section 182 (2) of the Punjab Municipal Act, 1911, any animal found picketed, tethered or straying on any public street without the permission of the committee may be removed to a pound by any officer or servant of the committee or by a police officer. No such effort was made to take control of stray animal, who had taken life of a human being. Consequently, this Court awarded `10 lacs with interest @ 9% from the date of filing of the petition till the date of payment leaving it open to the petitioner to approach the court for any sum in excess of what was assessed by this Court.

Facts of this case are not different from the facts of the cases, which have been relied upon by the petitioner because in all the three cases mentioned hereinabove, death had occurred due to the attack by a stray animal i.e bull and the inquest report and the post-mortem report both have proved without any doubt that the petitioner's husband had passed away only because of the injuries, suffered by the bull. The deceased had left behind his widow, who is a housewife and a daughter, who is studying and has to be got married also and there is no one to look after the family except the sole bread earner, who was a small financier and has been killed because of the negligence of the Municipal Committee, Fatehgarh Sahib.

Thus, in the facts and circumstances of this case, and taking into account the fact that it was/is the duty of respondent No.3 to keep public places free from the menace of stray animals and as a precious life has been lost, therefore, I am of the considered opinion that the Municipal Corporation (respondent No.3) should pay compensation of 10 lacs to the petitioner with 9% interest from the date of filing of the petition till the date of realization of the amount. It is ordered that the amount of compensation

shall be paid by the Municipal Corporation/respondent No.3 within three months from the date of production of certified copy of this order. While departing, the State of Punjab is also directed to at least frame a Policy for compensating the persons, who suffers injuries or are killed by stray animals, roaming around on the streets, so that such like cases could be decided by the respondents themselves (indiankanoon.org).

The state of Punjab has fewer government and NGO services that deal with stray dogs. Many other countries have organizations like Animal Control, the Humane Society, the SPCA, private shelters, and rescue organizations. All of these interventions require a lot of efforts and resources on the part of government. Though the intentions of the non government organizations are commendable but these are usually not managed in a professional manner and also lack government support. Mainly, these organizations are trying to control the dog population.

5.3 FINDINGS ABOUT THE GOVERNMENT POLICIES FOR THE MANAGEMENT OF STRAY ANIMALS

In spite of a rise in dog bite cases and cow attacks, the concerned departments in the state have failed to control the stray population. The authorities only come into action for a short duration when cases of stray terror are exposed by the media. The state government wants to impose separate tax on alcohol to raise funds for stray cattle shelters.

- The government authorities don't have any proper information about the population of strays in the state.

The government authorities don't have any chronological data collecting system about the numbers of accidents happening due to strays as all the cases are not reported and recorded. The cases included in the study are only the cases, which were reported to government civil hospitals and dispensaries across the state. The number is surely much more if those who visited private hospitals and chemist shops for anti-rabies vaccination are taken into account.

- To resolve the issue of stray animals in the state, the government authorities must have a sound and timely collected database about stray animals population. The conduct of stray animals survey is thus essential for making plans for the management of strays in the state.

- There is no separate provision of funds in the state budget for managing the stray animals in Punjab and no department is particularly responsible to deal with the menace of stray animals.
- There are no specific arrangements to handle complaints about the stray animal attacks, and to capture the aggressive animals.
- To Control breeding, spaying and neutering the animal is the best thing that one can do to prevent stray overpopulation. The key is to prevent the problem before it begins. Spay and neuter procedures are common surgeries performed by veterinarians while the pet is under anesthesia. Female animals are spayed by removing their ovaries and uterus, and male animals are neutered by removing their testicles.
- Government has insufficient arrangements for routine programs of spay and neuter. The concerned departments are not properly equipped to run low-cost spay and neuter programs.
- The birth control programme was started by the government over a decade ago, but its sterilization rate is dismally low, at less than 1%.

5.2 SUGGESTIONS OF THE STUDY

Dogs and cows freely roam in streets, markets and even near religious places. Often the children and old people become victims of these stray animals as both are more defenseless to dog and cow attacks.. Sincere efforts should be made to shift dogs to an isolated place. For this, the state administration should relocate stray dogs to pounds set up on the regional basis. The public should be more cautious in this regard. Extra care should be taken of children and elderly. People should be aware about steps to be taken in case a dog bites.

- To resolve the issue of stray animals in the state, the government authorities must have a sound and timely collected database about stray animals population. The conduct of stray animals survey is thus essential for making plans for the management of strays in the state.
- There should be a separate provision of funds in the state budget for managing the stray animals in Punjab and the government should fix the responsibility of a particular department to deal the menace with special mechanism.

- Arrangements are required to handle complaints about the behavior issues and quick dispatch teams should be there to capture the aggressive animals.
- To Control breeding, spaying and neutering the animal is the best thing that one can do to prevent stray overpopulation. The key is to prevent the problem before it begins. Spay and neuter procedures are common surgeries performed by veterinarians while the pet is under anesthesia. Female animals are spayed by removing their ovaries and uterus, and male animals are neutered by removing their testicles.
- Government should make arrangements for routine programs of spay and neuter. The department should always be ready to provide low-cost spay and neuter programs to the stray handled by free lancers in the state.
- The license of a dairy or cattle shed should be cancelled in case the cattle belonging to it strays out of its premises. The water and power supply to illegal dairies must be disconnected. Also, the stray cattle owners who let their cattle roam the city streets freely must be warned and fined suitably. Once impounded, these should be released only with a fine of minimum Rs. 5,000 per animal. The money, thus, raised can be used to maintain the cattle pounds and also pay for the cattle catchers.
- Land should be allotted for constructing dog pound. The authorities should make shelters for stray dogs. Its cost can be covered by fund-raising campaigns. There should be a proper space for dogs as urbanization has lost their natural habitat. Thereafter, creating huge gaushalas, at appropriate locations, which can accommodate thousands of such cattle. The authorities should have to develop more infrastructures out of the residential areas for the dairies so that the owners can keep their animals away from the public.
- Animal lovers can help by rounding up strays and keeping them in custody until good homes are found for them. Instead of purchasing a pet from a breeder or pet store, adoption of strays can save time and money. Adopting a stray not only save a pet but also provide it a home forever and it leads to reducing the number of homeless pets in our community.

- Respecting animal lovers' feelings, if stray dogs are not to be killed, then shelter home is a viable remedy. Let dog pounds be financed by collecting a nominal tax on luxury items and five-star hotel billings.
- The state authorities should wake up to the citizens' welfare and employ strong cattle catching squad to catch the stray cattle which cause nuisance and also pose threat to human life. Cowsheds, cattle sheds must be constructed within suitable areas to keep the stray cattle and sufficient staff should be employed to take care of these cattle.
- Garbage should be kept in bins and cleaned regularly. Stray dogs cannot survive on the streets without garbage.
- The dispensaries do not have sufficient stock of anti-rabies vaccine. These should be fully equipped with medicines and vaccines. The people bitten by dogs are more harassed as they do not get treatment immediately. The anti-rabies vaccine should be available free of cost at veterinary centres and government hospitals and round-the-clock to give immunity to victims of dog bites.
- Collective adoption model is successfully implemented in many countries, where communities and the government collectively care for and treat stray animals. The government tags community dogs, vaccinates them, and offers medical attention for any injuries. Then local people care for, feed, and play with the dogs in their neighborhood.
- A community based animal birth control program, locally based, including free medical care and inpatient facilities can result in a rabies free, healthy dog population where human and animal interests are equally taken into account. Community based dog care projects need to be established in every town, village and city.
- The MC should take it as a project under a councillor and should implement with due responsibility and sincerity. The co-operation from the local people in rounding up the stray cattle should be entertained.
- Every AH hospital needs to provide free medical care for the local street dogs

at the in- and outpatient departments of their clinic/shelter. Veterinarians have to be trained to serve and respect the lives of all animals.

- Dogs continue to attack pedestrians and two-wheeler riders, besides make venturing in the dark or isolated areas a nightmare. Only solution to the burgeoning menace lies in culling the stray and unregistered dogs at regular intervals. Law does not allow the necessary killing of menacing dogs like other animals. Now bold action is warranted,
- Microchip the pets is another measure to reduce the number of strays. Many pets become strays because they get lost. Unfortunately, most of these pets are not reclaimed by their owners. Microchips can reunite lost pets with their owners quickly, easily, and efficiently.
- Awareness campaigns by the government can help create this systemic change in the public's mindset. Public education regarding responsible pet ownership is urgently required. Educate each one in the society (children, family members, friends, and co-workers) about the consequences of overpopulation of strays in the society. The residents are unaware of how severe the overpopulation has become. Bringing awareness is like to win half the battle.
- Animal husbandry department should focus on the importance of spaying and neutering with an emphasis on the impact of stray overpopulation in the state. There should be special classes, presentations and seminars to help share the message of how this community can help to resolve the issue of stray animals.
- Majority of cases of injuries and deaths due to stray animal attacks are dog bite and cow/bull attack cases, hence the state government should make efforts to control the increasing number of population of these two types of stray animals on priority basis.
- The state government has to come up with large scale interventions that can deal with the problem. Government should provide proper administrative support to NGOs and private organization to make the state free from stray animal terror.
- To make state, free of stray animals, government should initiate a community

based action plan for the entire state. Certain measures like vaccination of animals to eliminate infection and birth control, creating awareness through public health programs is the need of the hour (Menezes, 2008).

5.3 CONCLUSION

Man-animal conflict is on the rise. This conflict adversely impacts human welfare, health and safety and is ridden with huge economic and social costs. It also impacts negatively on human health and safety. Increasing number of stray animals day by day is a crucial issue for the State Government. A number of efforts have been initiated by the government authorities to resolve the issue but no proper solution has been drawn till date. The present study has made many suggestions in the light of research outcomes to tackle the issue. Many new ideas have been explored to solve the problem of stray animals as well as to the better management of these homeless creatures. Awareness campaigns by the government can help create this systemic change in the public's mindset. The solution lies in sound policies and management of strays along with public cooperation. Apart from stray cows and dogs, monkeys also need a mention too as they create nuisance in certain residential areas. People are really fed up of these nuisances and have always complained the municipality regarding it but till now municipality hasn't come up with any good solution. It's a hope that the municipal corporations of Punjab will take up some new and innovative measures and curb this problem of stray animals. The issue of stray dogs and cattle should be on the priority list and effective steps must be taken on the earliest.

BIBLIOGRAPHY

- Arya, S., Swain, R.K., Nayak, H.K., & Pati, A.K. (2019). Circadian variations in foraging and resting/standing activity patterns of stray street cattle of urban Sambalpur, Odisha, India, *Biological Rhythm Research*, 1-13.
- Baxter, D. N., & Leck, I. (1984). The deleterious effects of dogs on human health: Canine zoonoses. *Journal of Public Health*, 6(3), 185-197.
- Blackshaw, J. K. (1991). An overview of types of aggressive behaviour in dogs and methods of treatment. *Applied Animal Behaviour Science*, 30(3-4), 351-361.
- Buechner, H.K., Craighead Jr, F.C., Craighead, J.J., & Cote, C.E. (1977), Satellites for research on free-roaming animals. *BioScience*, 21(24), 1201-1205.
- Carding, A.H. (1969). The significance and dynamics of stray dog populations with special reference to the UK and Japan, *Journal of Small Animal Practice*, 10(7), 419-446
- Clark, M. A., Sandusky, G. E., Hawley, D. A., Pless, J. E., Fardal, P. M., & Tate, L. R. (1991). Fatal and near-fatal animal bite injuries. *Journal of Forensic Science*, 36(4), 1256-1261.
- Cliquet, F., Gurbuxani, J.P., Pradhan, H.K., Pattnaik, B., Patil, S.S., Regnault, A., & Singh, R. (2007). The safety and efficacy of the oral rabies vaccine SAG2 in Indian stray dogs. *Vaccine*, 25(17), 3409-3418.
- Cummings, P. (1994). Antibiotics to prevent infection in patients with dog bite wounds: A meta-analysis of randomized trials. *Annals of emergency medicine*, 23(3), 535-540.
- Dalla Villa, P., Kahn, S., Stuardo, L., Iannetti, L., Di Nardo, A., & Serpell, J.A. (2010). Free-roaming dog control among OIE-member countries, *Preventive veterinary medicine*, 97(1), 58-63
- Dias, R.A., Guilloux, A.G.A., Borba, M.R., de Lourdes Guarnieri, M.C., Prist, R., Ferreira, F., & Stevenson, M. (2013). Size and spatial distribution of stray dog population in the University of São Paulo campus, Brazil, *Preventive veterinary medicine*, 110(2), 263-273

- Ehsan, S., Bradford, K., Brugger, M., Hamdaoui, B., Kovchegov, Y., Johnson, D., & Louhaichi, M. (2012). Design and analysis of delay-tolerant sensor networks for monitoring and tracking free-roaming animals, *IEEE Transactions on Wireless Communications*, 11(3), 1220-1227.
- Feldmann, B.M., & Carding, T.H. (1973). Free-roaming urban pets, *Health services reports*, 88(10), 956
- Fiedler, D., Essen, S. V., Morgan, D., Grisso, R., Mueller, K., & Eberle, C. (1998). Causes of fatalities in older farmers vs. perception of risk. *Journal of agromedicine*, 5(3), 13-22.
- Fielding, W.J., & Mather, J. (2010). Stray dogs in an island community: A case study from New Providence, The Bahamas. *Journal of Applied animal welfare science*, 3(4), 305-319.
- Fraser, D., & MacRae, A.M. (2016). Four types of activities that affect animals: Implications for animal welfare science and animal ethics philosophy. *Animal Welfare*, 20(4), 581-590.
- Ghatak, S., & Singh, B.B. (2015). Veterinary public health in India: current status and future needs. *Rev. Sci. Tech. Off. Int. Epiz*, 34(3), 000-000.
- Griffiths, A. O., & Silberberg, A. (1975). Stray animals: their impact on a community. *Modern veterinary practice*, 56(4), 255-256.
- Guilloux et al (2018), Stray dogs in urban fragments: relation between population's perception of their presence and socio-demographic factors, <http://www.scielo.br/pdf/pvb/v38n1/1678-5150-pvb-38-01-89.pdf>, accessed on 15/10/2018
- Heston, A. (1971). An approach to the sacred cow of India. *Current Anthropology*, 12(2), 191-209.
- Hsu, Y., Liu Severinghaus, L., & Serpell, J.A. (2010). Dog keeping in Taiwan: its contribution to the problem of free-roaming dogs. *Journal of Applied Animal Welfare Science*, 6(1), 1-23.

- Jasper, J. (1999). Animals, Violence Toward. *Encyclopedia of Violence, Peace, and Conflict*, 77.
- Kamble, B., Panesar, S., Das, A., Roy, N., Yadav, G., Khokhar, A., & Kishore, J. (2016). Knowledge, attitude and practices related to animal bites among the residents of an urbanized village in South Delhi. *Int J Res Development Pharma Life Sci. Available*, 5(3), 2164-8.
- Kanchan, T. (2015). Animal Attacks and Injuries: Fatal. In *Encyclopedia of Forensic and Legal Medicine: Second Edition* (pp. 148-157). Elsevier Inc.
- Khokhar, A., Meena, G.S., & Mehra, M. (2003). Profile of dog bite cases attending MCD dispensary at Alipur, Delhi. *Indian J Commun Med*, 28(4), 157-9p.
- Knight, J. (2000). Introduction. In J. Knight (Ed.), *Natural enemies: People–wildlife conflicts in anthropological perspective* London: Routledge, (pp. 1–35).
- Korns, R. F., & Zeissig, A. (1948). Dog, Fox, and Cattle Rabies in New York State. Evaluation of Vaccination in Dogs. *American Journal of Public Health and the Nations Health*, 38, 50-65.
- Lackmann, G. M., Draf, W., Isselstein, G., & Töllner, U. (1992). Surgical treatment of facial dog bite injuries in children. *Journal of Cranio-Maxillofacial Surgery*, 20(2), 81-86.
- Langley, R. L., & Morrow, W. E. (1997). Deaths resulting from animal attacks in the United States. *Wilderness & environmental medicine*, 8(1), 8-16.
- Menezes, R. (2008). Rabies in India. *Cmaj*, 178(5), 564-566.
- Morgan, J. P., Haug, R. H., & Murphy, M. T. (1995). Management of facial dog bites injuries. *Journal of oral and maxillofacial surgery*, 53(4), 435-441.
- Mota-Rojas, D., Orihuela, A., Strappini-Asteggiano, A., Nelly Cajiao-Pachón, M., Agüera-Buendía, E., Mora-Medina, P. & Alonso-Spilsbury, M. (2018). Teaching animal welfare in veterinary schools in Latin America. *International journal of veterinary science and medicine*, 6(2), 131-140.

- Otranto, D., Dantas-Torres, F., Mihalca, A.D., Traub, R.J., Lappin, M., & Baneth, G. (2017). Zoonotic parasites of sheltered and stray dogs in the era of the global economic and political crisis, *Trends in parasitology*, 33(10), 813-825
- Panda, A., & Kumar, A. (2006, October). Environmental pollution caused by stray animals in Palampur City, Himachal Pradesh. In Proceedings of the Compendium of the 5th Annual Conference of the Indian Association of Veterinary Public Health Specialists (IAVPHS), Palampur, India (pp. 12-14).
- Ramanujan, A. (2007). Violent Encounters: 'Stray Dogs in Indian Cities. In *Cosmopolitan Animals*' (pp. 216-232). Palgrave Macmillan, London.
- Rani, M., Rohit, S.A., & Dikshit, P.C. (2009). Injuries by bull horns: patterns and prevention protocols. *Anil Aggrawal's Internet Journal of Forensic Medicine and Toxicology*, 11(1), 1-26.
- Reese, J.F. (2005). Dogs and dog control in developing countries, <https://animalstudiesrepository.org/sota>
- Sacks, J. J., Lockwood, R., Hornreicht, J., & Sattin, R. W. (1996). Fatal dog attacks, 1989-1994. *Pediatrics*, 97(6), 891-895.
- Sampson, W. W. (1984). The Urban Canine: Pet... Disease Vector... Safety Hazard... Nuisance. *Journal of Environmental Health*, 306-310.
- Sharma, S.U., & Shah, D. (2017). Design and development of animal detection algorithm using image processing. A Research Thesis, Gujarat Technological University
- Sharma, S.U., & Shah, D. (2016). A practical animal detection and collision avoidance system using computer vision technique. *IEEE Access*, 5, 347-358.
- Singh, B.B., Ghatak, S., Banga, H.S., Gill, J.P.S., & Singh, B. (2013). Veterinary urban hygiene: a challenge for India. *Rev Sci Tech*, 32, 645-56.
- Slater, M.R., Di Nardo, A., Pediconi, O., Dalla Villa, P., Candeloro, L., Alessandrini, B., & Del Papa, S. (2007). Free-roaming dogs and cats in central Italy: Public perceptions of the problem. *Preventive veterinary medicine*, 84(1-2), 27-47

- Totton, S.C., Wandeler, A.I., Ribble, C.S., Rosatte, R.C., & McEwen, S.A. (2011). Stray dog population health in Jodhpur, India in the wake of an animal birth control (ABC) program, *Preventive veterinary medicine*, 98(2-3), 215-220
- Ugboko, V.I., Olasoji, H.O., Ajike, S.O., Amole, A.O.D., & Ogundipe, O.T. (2002). Facial injuries caused by animals in northern Nigeria. *British Journal of Oral and Maxillofacial Surgery*, 40(5), 433-437.
- Valley, S., & HP, H.P. (2015). Feral dogs of Spiti Valley, Himachal Pradesh: an emerging threat for wildlife and human life. *Current Science*, 108(10), 1799.
- Vijayachari, P., Sugunan, A.P., & Shriram, A.N. (2008). Leptospirosis: an emerging global public health problem. *Journal of biosciences*, 33(4), 557-569.
- Voslářvá, E., & Passantino, A. (2012). Stray dog and cat laws and enforcement in Czech Republic and in Italy. *Annali dell'Istituto superiore di sanitÃ*, 48, 97-104.
- Weiss, H. B., Friedman, D. I., & Coben, J. H. (1998). Incidence of dog bite injuries treated in emergency departments. *Jama*, 279(1), 51-53.
- Wladis, E. J., & Dewan, M. A. (2012). Periorbital trauma from pit bull terrier attacks. *Orbit*, 31(3), 200-202.
- <http://animal-welfare-ngos-in-amritsar.blogspot.com/p/about-us.html>
- <https://www.peopleforanimalsindia.org/aboutus.php>
- https://www.facebook.com/pg/janhitsewasamitipatiala/posts/?ref=page_internal
- <https://www.peopleforanimalsindia.org/pfa-ngo-and-indivisual.php>
- <http://www.weforanimals.com/animal%20welfare%20organizations/animal-welfare-organizations-28.htm>
- <http://www.infoqueenbee.com/2016/01/list-of-animal-welfare-organizations-in.html>
- <http://animalwelfareorganisations.blogspot.com/>

- https://en.wikipedia.org/wiki/List_of_animal_welfare_organizations#India
- <http://bgrd.org/gau-rakshadal-in-punjab/>
- <http://punjablaws.gov.pk/laws/2542.html>
- <http://husbandrypunjab.org/default.aspx>
- http://www.dogsindia.com/animal_welfare_org.htm
- <https://punjab.ngosindia.com/category/ludhiana-ngos/page/2/>
- <http://www.weforanimals.com/animal%20welfare%20organizations/animal%20welfare%20organisations.htm>
- <http://www.merimaa.co.in/list-of-indian-gaushala/list-of-Gaushalas-Punjab.pdf>
- <https://dailypost.in/news/punjab/doaba/stray-animal-menace-haunt-heritage-city/>
- <http://www.cowism.com/secret-of-indiasquos-street-roaming-cows>
- <http://www.researchgate.net>
- <http://www.australiangeographic.com>
- <http://journals.cambridge.org>
- <http://medind.nic.in>
- <http://www.sciencedirect.com>
- <http://www.plosntds.org>
- <http://cid.oxfordjournals.org>
- <http://www.sciencedirect.com>
- <http://avmajournals.avma.org>
- <http://www.scielosp.org>
- <http://www.tandfonline.com>
- <https://timesofindia.indiatimes.com/city/chandigarh/accidents-by-stray-animals-hc>

- http://timesofindia.indiatimes.com/articleshow/61377254.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst
- <https://timesofindia.indiatimes.com/city/chandigarh/punjab-haryana-list-norms-about-compensation-to-stray-dog-bite-victims/articleshow/61377254.cms>) Nov 1, 2017.
- <http://diprpunjab.gov.in/?q=content/punjab-cm-approves-rs-220-crore-upkeep-maintenance-gaushalas-check-stray-cattle-menance>
- <https://www.indiatoday.in/india/story/the-man-eating-stray-dogs-of-punjab-1502531-2019-04-15>
- <https://www.hindustantimes.com/punjab/stray-cattle-destroying-crops-in-kandi-bet-areas/story-https://www.jagranjosh.com/general-knowledge/which-indian-states-impose-cow-cess-1547553807-1>
- <https://www.tribuneindia.com/news/punjab/1-13-lakh-dog-bite-cases-punjab-depts-pass-buck/737709.html>
- <https://www.hindustantimes.com/punjab/punjab-s-4-lakh-stray-dogs-vanish-into-thin-air-shows-affidavit/story>
http://pashudhanharyana.gov.in/sites/default/files/documents/Livestock%20Census/Instruction%20Manual_%2020th%20LC%202017.pdf
- <https://indiankanoon.org/doc/126586998/> accessed on 26/3/2019
- http://pashudhanharyana.gov.in/sites/default/files/documents/Scheme_for_the_establishment_of_Gau_Abhayaranya_in_the_state.
- <https://www.indiatoday.in/india/story/the-man-eating-stray-dogs-of-punjab-1502531-2019-04-15>
- http://nhp.gov.in/national-rabies-control-programme_pg
- <https://www.ncbi.nlm.nih.gov/pubmed/18055046>