



## ANTHROZOOLOGICAL APPROACH: MAN-ANIMAL CONFLICTS IN QUEPEM, GOA

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### AUTHORS' COTRIBUTIONS

This work was carried out in collaboration among all authors. Author KRR designed the study, wrote the protocol and guided the project work. All other authors collectively executed the work. All authors read and approved the final manuscript.

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### ABSTRACT

The life of humans and animals is always been intertwined, the ways that humans relate to and think about members of other species became the focus of systematic study in recent period. Anthrozoology is an exciting, rapidly growing field of scientific inquiry focussing on human's individual and collective relationships with, and attitude towards animals. Widely inter disciplinary, anthrozoologists study a range of areas such as pet keeping, farming, animal research, conservation, zoo's, animal in sports, companion animals and other related aspects. Anthrozoological inquiry include the psychological and biological underpinnings of attachments to pets, attitudes towards the use of animals, cross cultural similarities, differences in human animal relationships, sex differences in interaction with other species and the role of animals in art, religion, mythology, sport and literature. The major focus of anthrozoological research is the quantifying of the positive effect of human animal relationship on either party and study of their interactions. In the present investigation an attempt is made to understand the attitude of the Goan society towards domestication, species preference in domestication, Concern for their safety and Man animal conflicts.

**Keywords:** Anthrozoology; companion animals; conservation; domestication; man animal conflicts; pet keeping.

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## 1. INTRODUCTION

Although the bond between People and animals dates back to pre-history, only recently this relationship has become the subject of serious scientific inquiry. [1], Irvine, L. [2]. For a number of people, companion animals represent an emotional rather than an economical resource, providing their owners with support, comfort and companionship. Many people feel that their pet is a member of the family and treat it as such, like the dog which is the most ancient companion of humankind [3]. The people, who have pet, remain healthy, get more exercise, less depressed, have healthier hearts, stay home sick less often. A pet can make a person feel more relaxed and decrease stress. Social support from friends and family can have similar benefits. Among elder people pet ownership is an important source of social support that enhances wellbeing. Elderly individuals that had a pet were better able to perform certain physical activities of daily living, such as the ability to climb stairs, bend, kneel, give medication or prepare meals. In many cases companion animals may not have an impact on psychological health, however, a care taking role may give older individuals a sense of responsibility and purpose that contributes to their overall wellbeing.

Parents often keep a pet because they consider it to be good for their children. As the animals are entirely dependent on their owner, children may learn to understand feelings and needs [4]. Pets are supposed to be a source of popularity and also help children to develop empathy. Children may feel responsible and competent if they take care of a pet. Endenburg N, Baarda B, [5]. With a busy schedule and lifestyle parents are sometimes unable to give their children time and attention; in such case, kids go to the pet if they have a problem without feeling threatened as it is a non-judgemental affection. Thus pets bring social support.

The dynamic relationship between people and animals is influenced by behaviours essential to the health and wellbeing of both and is mutually beneficial. This includes emotional, psychological and physical interactions of people, animal and the environment.

Animal welfare means how an animal is responding to the conditions in which it lives. An animal is in a good state of welfare if it is healthy, comfortable and well nourished, able to express innate behaviour, safe and if it is not suffering from unpleasant states such as pain, fear and distress. Good animal welfare requires appropriate shelter, management of nutrition, disease prevention, veterinary treatment, humane handling and humane slaughter.

Although it is common belief that animal cruelty is mostly found in the homes or on the streets, there are countless other forms of animal abuse such as fishing, hunting, animal testing, slaughtering and other agricultural practices like de-beaking, tail docking, castration and confinement on factory farms.

Human's relationship with animals, is of great interest and the subject of great controversy. It is receiving increasing attention from conservation biologists. Human animal conflicts are often manifestations of underlying human – human conflicts. This issue encompasses a huge diversity of situations and species, from grain eating rodents to man eating tigers *Panthera tigris* [6,7]. Living alongside such species can impose a variety of significant costs upon people, including depredation upon livestock or game, disease transmission to stock or humans [8], crop raiding or destruction of stored food. Perez and Pacheco, [9] attacks upon humans [10].

Human animal conflict is very common global phenomena in rural areas and has become common on urban fringe in both developing and developed countries now [11]. Conflicts of domesticated animals include bull fight, cock fight, cow slaughters, which get highlighted in the media. It is emerging as a significant Animal management issue. The conflict results in severe impacts on communities in the form of crop depredation, property damage, loss of livestock, human injury and road kills. There are many dimensions to the whole issue of human animal conflict, which can chiefly be understood in two broad categories viz, habitat dimensions and human dimensions [12]. Most of the literature available is on Human wildlife conflicts. Very meagre information is available on Man and domesticated animals. An attempt was made to study man animal conflicts in urbanised, semi urbanised and rural areas of Quepem with small transect of forest coverage.

## 2. MATERIALS AND METHODS

Goa encompasses an area of 3,702 km<sup>2</sup> (1,429 sq. mi). It lies between the latitudes 14°53'54" N and 15°40'00" N and longitudes 73°40'33" E and 74°20'13" E. Goa has a coastline of 160 km (99 mi).

Present investigation is carried out by adopting survey methods with the collaboration of Department of Animal husbandry, Municipal Council, Police Station, electricity department and Animal welfare trust.

One hundred houses were selected randomly covering the area of Quepem taluka, for survey regarding the number of animals domesticated, treated, vaccinated

and insemination done during the study period. Stray cattle and their injuries, treatment and road kills during the study period were recorded.

### 3. RESULTS

In the present study one hundred houses are surveyed randomly. Results indicate that dogs are favourite pets (74 houses) for the majority of the people. It is observed that most of the people prefer male dogs than female dogs, because they believe that male dog is more affectionate and easier to train and protective to house owners, while the female dog is more aggressive and protective towards puppies. It is observed during our study most people prefer dogs (74 houses) and cats (51 houses) as the pets. People usually keep pets as companion but sometimes to get some resources. Few people domesticated cattle (26 houses) and chicken (26 houses) for dairy products and meat. Very few people have domesticated pig (11 houses) as their pet and the number of birds as pets is

even lesser (only 7 Houses) in Quepem. Some have more than one type of pet, where as many people don't have any pet at home because busy lifestyle restrict them from keeping pets and some think having a pet at home, can affect their health. As per the random survey of one hundred houses in Quepem area, the percentage of pets is Poultry birds constitute maximum 28.255 %, followed by dogs (22.358 %), cats- (20.884%), Cattle (19.656%), pigs (05.405%) and other birds constitutes the least (03.439 %). Our study reveals in many cases people have more than one type of pets and economy is not the sole criteria for domestication. Companionship and protection are of almost equal significant in domestication (Table 1).

#### 3.1 Animal Treatment

The data collected regarding the treatment of domesticated animals from Department of Animal husbandry and Veterinary dispensary, Curchorem,

Table 1. Status of domestic animals in Quepem

Domesticated Animal	Number of houses	Number of pets	Percentage
Poultry birds	026	115	28.2552
Dogs	074	091	22.3587
Cats	051	085	20.8845
Cattle	026	080	19.6560
Pigs	011	022	05.4054
Birds	007	014	03.4398
Total	195	407	99.9996

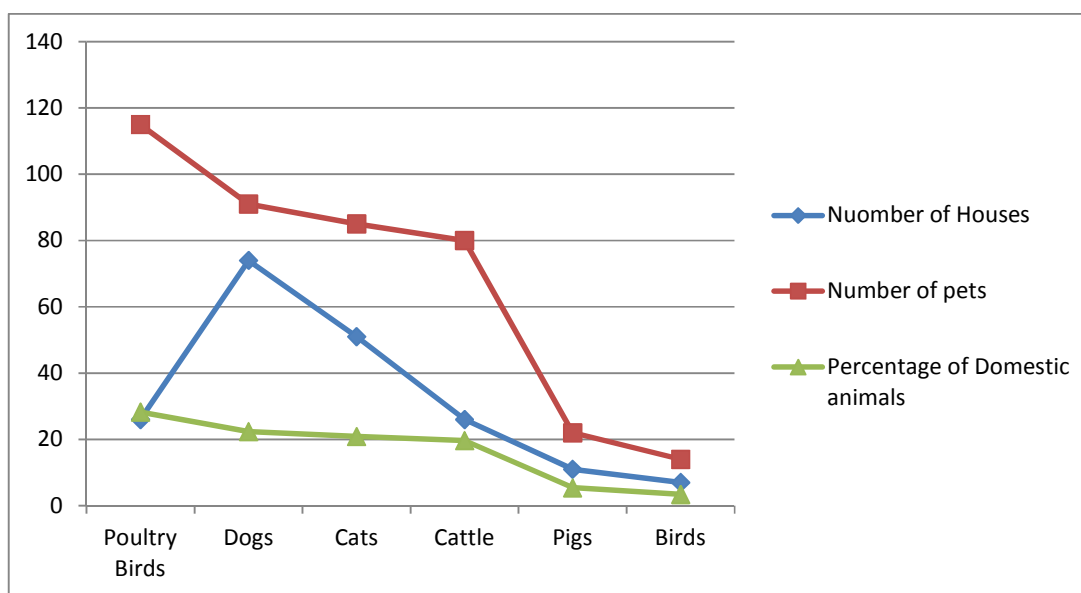


Fig. 1. Graphical representation of domestic animals in Quepem

Goa. Animals brought here are given appropriate treatment and care. Poultry and cattle are treated more because of their commercial value. It is observed during the study period that some Pet owners of dogs and cats prefer to consult private veterinary doctors. However, it is evident from the present study all the pets at home are not given equal care and importance by the owners, as many owners of old and weak cattle, dogs, cats, pigs and other animals not responded for the treatment related issues during our door to door survey (Table 2).

**Table 2. Number of different domesticated Animals treated during Study period**

S. No	Domestic animal	Total number of Animal treated.
1	Cattle	3469
2	Poultry	1956
3	Buffalo	190
4	Pigs	97
5	Dogs	95
6	Goats	31
7	Others	09

### 3.2 Vaccines

The data collected for various vaccines administered during the study period. FMD (Foot and mouth disease) vaccine was given maximum cases (2814), to cattle, sheep and pigs which stimulates predominantly humoral immune response in the vaccinated animals.

BQ ( Black Quarter) given(991) as prophylactic measure to control black quarter disease caused by *Clostridium* infection in cattle, buffaloes, sheep and goats and HS ( Haemorrhagic septicaemia) vaccine given (990) to cattle and buffalo in almost equal number of cases.

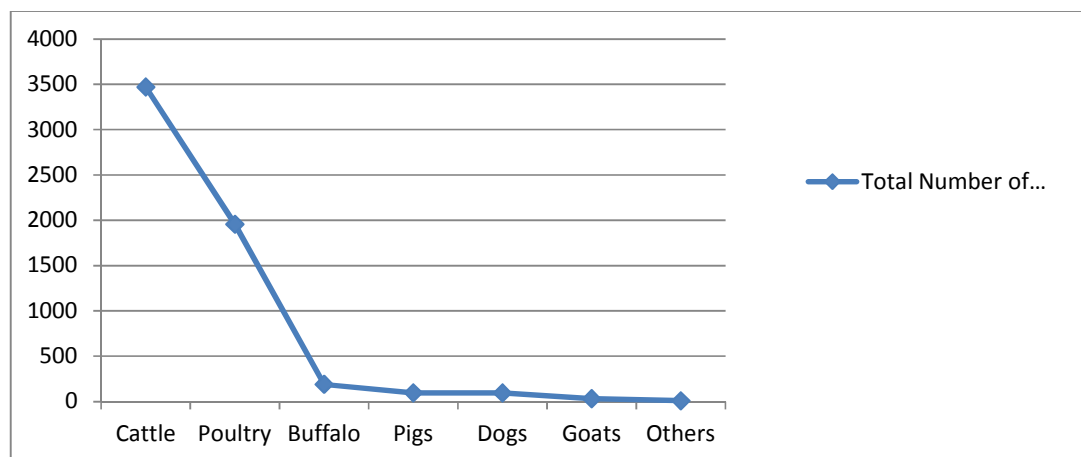
Enterovaccine (*Escherichia coli* vaccine) is a virulent live vaccine recommended as an aid in the prevention of enteritis caused by *E.Coli* in pigs. 200 vaccines were given during the study period. Only 50 S - fever vaccines were given during the study period. ARV (Anti rabies vaccine) were the least number of vaccines (30) given during the study period. Vaccine regime also highlights the unequal importance in prophylactic measures and protection cover given among different pets (Table 3).

**Table 3. Number of vaccines given to domestic animals during study period**

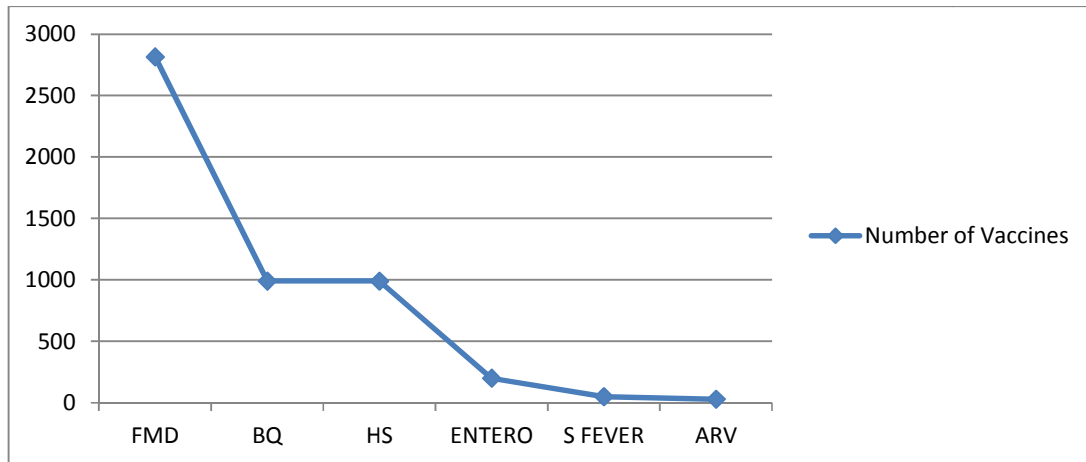
S. No	Vaccine type	Number of Vaccines given
1	FMD	2814
2	BQ	991
3	HS	990
4	Entero	200
5	S. fever	050
6	ARV	030

### 3.3 Road Kills

The road network is expanding at a monstrous scale due to expanding economy and increase in vehicular traffic. Roads are becoming a serious threat to animals killing them on a daily basis by speeding vehicles. When an important individual of a species is killed it causes several indirect effects on the population for example if a female dog is killed it might have puppies that will die of starvation or death of dominant males may result in killing the puppies by other males trying to take over the territory. Hence it is extremely important that implementation of speed controlling measures such as speed breakers, rumble strips at crucial locations. During this study 3 cats, 6 dogs, 2 cows and 1 buffalo kills were reported in Quepem area (Figs. 4-7).



**Fig. 2. Graphical representation of different domesticated Animals treated during Study period**



**Fig. 3. Graphical representation of vaccines given to domestic animals during study period**



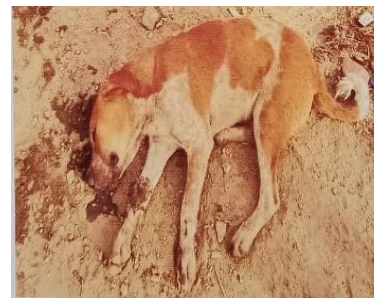
**Fig. 4. Dead calf on the ground near Maina. Quepem .**



**Fig. 5. Dead dog on the road side of Zambaulim. Quepem.**



**Fig. 6. Dead cat on the Road side of Carali. Quepem**



**Fig. 7. Dead dog on the foot path at Bali, Quepem**

#### 4. DISCUSSION

Humans have different kinds of relationships with domesticated animals. The interactions with animals may be beneficial for humans but may be also risky [13]. A close relationship with a pet animal is associated with significant health effects such as lowered risk factor for cardiovascular disease, higher chances to survive after myocardial infarction, less need of physician services during stress and a highly significant reduction in everyday minor health

problems after acquiring a pet [4]. Similar opinion was expressed by some during our survey.

We take animal domestication for granted, but from basic essential products to faithful companionship, domesticated animals have provided us innumerable products and services. Pets have the ability to stimulate care givers and help them to heal from physically or psychologically troubled past [14]. During the survey period maximum people expressed domestication is for their safety and survival. They

depend on the by-products of the domesticated animals such as cow, buffalo, goats, pigs and poultry birds. Thus, human animal relationship is an example of inter – specific relationship.

Human animal conflict is a threat to many species like dog, cat, cow, buffalo, etc. endangering its population. As human population increase, development, deforestation increases and global climate changes put animal and people in greater conflicts, which may also cause threat to survival of both man and animal.

The key reasons for man animal conflicts are encroachment of human beings in animal habitats for development and dwelling purpose, domesticating animals for social status without empathy towards animals, lack of proper knowledge of basic needs of the animals. The consequence of this is severe which results into abnormal behaviour, aggressiveness of animals like dog, cat, cattle, pig and other domestic animals which were otherwise calm and loyal to the masters. Developmental activities causes interference in the habitats, forest areas and also the privacy of animals, which causes damage to agricultural crop and property, killing of livestock and human beings. It is high time that Government should evolve better preservation strategies in conservation with animal welfare boards so such conflicts can be avoided to a large extent.

Adopting an animal that has no home and have danger of getting destroyed , is morally good .It is only ethical to keep an animal as a pet if animals, both biological and psychological needs are properly catered for. In our study period, we have come across several instances violating animal rights in terms of confinement to the house, irregular feeding schedules, placing in unhygienic conditions etc. Exploitation includes using an animal to earn money, beg or for crime is highly unethical.

During our study period several instances of negligence in vaccination, health care practices from the pet owners was noticed and were advised to follow the norms of health care. Keeping animals as pets may be detrimental to their health if certain requirements are not met, such as improper feeding, which may produce clinical effects. It is observed a sizeable number of people do not provide healthy food to domestic animals .Certain species of house plants like philodendrons and ester lilies cause severe kidney damages to cat [15] and Poinsettias, Begonia, Aloe Vera can also prove toxic if consumed by pets.

House pets, particularly dogs and cats in industrialized society area are highly susceptible to

obesity. Overweight pets have been to be at a higher risk of developing diabetes, liver cirrhosis, kidney failure, joint pain and cancer. Lack of exercise and high calorie diets is considered to be primary contributors to pets obesity [16]. Similar findings are also observed during our study period as some people keep their pets tied all the time which make them aggressive , violent and depressed as they are meant to be free.

In the multidisciplinary character of research on human animal interactions many concepts, methods and instruments are used. Researchers with different backgrounds use of different technology and conclude in different situations which make hypothesis very complicated. Child temperament, interactive review of concepts research programme and measures were reported by Zentner M, Bates J.F. [17]. The effects of Animals on Human health and wellbeing was studied by Wells D.L. [18]. The influence of animals on the development of children was studied by Nienke Endenburg and Hein A. van Lith [19].

During our study period at the Animal rescue centre, Goa Animal Welfare Board Bansai, Cacora, Curchorem, Goa it is observed that the main goal of animal rescue centre is to rehome animals in environment where their welfare is protected and enhance the knowledge of the community on responsible pet ownership. They provide animal shelters, care centres and adoption centre where they house domesticated animals that have been rescued either as a result of abuse or have been joined as stray. They are protected and cared here until they are adopted into new homes.

Problems of stray cattle are very common. Functioning of Municipal authorities in rescuing them and taking to cattle pound for temporary stay and there after collection of cattle by owners after paying the fine is effective in majority of the cases as the cattle have the commercial value. However, stray animals not collected by the owners after fifteen days are shifted to Dhyan foundation, at Zambaulim, Quepem, Goa where they take care of their basic necessities. Rapid urbanization, increased number of vehicles and expansion of Road network are the main reasons for man animal conflict resulting in to increased road kills of Animals ,also severe injuries and death of human.

## 5. CONCLUSION

People domesticate animals as their companion. In many homes the animals domesticated is not just a pet, but a treasured member of the family. Dogs are preferred more than any other animal as a pet, due to

various reasons like provide psychological benefits, help to overcome loneliness. Treatment given to animal pets in the recent times changing drastically with the change in lifestyle. A community level awareness campaign of animal health care by concerned authorities is highly appreciable to minimise man animal conflicts in Quepem. Many people do not keep any pet at all, because they think that it is unsafe for their children, causes ill health, and is a burden to take care of the pets with a busy lifestyle.

## DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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