

# **Social cost of stray animals**





UNIVERSIDAD DE LAS PALMAS  
DE GRAN CANARIA



Máster Universitario en Economía del Turismo,  
del Transporte y del Medio Ambiente  
(MSc in Tourism Transport and Environmental Economics)

SOCIAL COST OF STRAY ANIMALS

Eva Bernete Perdomo  
44719609L

(Student's Signature)

Bajo la tutela de Nombre y Apellidos del Tutor  
Carmelo León J. González

Las Palmas de Gran Canaria (                    )

## Table of contents

1. Abstract:.....	1
2. Introduction .....	2
3. Literature review:.....	3
4. Objectives of the study:.....	27
5. Causes of abandon in Spain:.....	28
6. Consequences and real cost of animal abuse and abandon.....	30
7. Solutions:.....	30
8. Functions of the centre: .....	31
9. Project financing: .....	32
10. Conclusions .....	34
11. References:.....	35

## 1. ABSTRACT:

The purpose of this study is to analyze the causes of abandonment of pets and the different costs that it generates, as well as proposing a package of measures to end with this problem, reducing costs by over 80%.

The main obstacle to address this study is the lack of official data on the exact population and the actual cost incurred by the abandonment of stray animals (dogs and cats). The problem of stray animals has hardly been studied in the field of economics. This project will be further developed in a PhD and submitted to the competent authorities of the Autonomous Community for implementation.

## 2. INTRODUCTION

### A world without kennels: End with neglect and mistreatment of pets:

Society evolves and slowly solve problems that affect citizens. Recently, the regulation of alcohol and tobacco consumption in public places was undertaken. At this time it is appropriate and necessary regulation of abuse and neglect of companion animals.

Abandoning pets, dogs and cats has become a social scourge that needs an immediate solution. Thousands of cats and dogs are abandoned every year without anyone providing effective remedies to prevent

Spain has one of the highest prevalence of animal abandon in Europe. According to FAPAM (Federation of the Associations of Animal Protection of the Community of Madrid). in Spain are collected more than 300.000 animals a year with a direct cost of 6.000.000 € per year. This figure is referred only to the cost of rescue, veterinary care, housing and maintenance. Complaints of abuse are over 18.000 each year without any official data on these costs. Every three minutes an animal is abandoned in Spain.

Historically, neglect and abuse of animals has occurred as natural as an animal is just a "thing" that has as much its commercial value. Once in possession of the animal, the owner could do anything with him and generally nobody cared. There are hundreds of letters, reports, stories etc. reflecting this fact.

Fortunately societies evolve and no one wants to see abandoned and abused animals, society gains nothing from it, indeed, this problem generates costs that society does not have to bear.

Stray animals also cause other less known expenses such as those from traffic accidents, bites or animal disease transmission. Other costs such as the ethical, moral and policy are also discussed.

Solving the problem of animal abuse and neglect is needed to reduce social costs. The solution proposed here is really simple, and achieves all the objectives one hundred per cent: the cost decreases up to 80 percent and also end with the rest of the problems.

-The solution is to implement a package of measures aimed to solve the whole problem as a whole.

This package includes the extension of the currently existing legal coverage to two specific cases: the breeding and sale of companion animals.

-All forecasts are favourable for the project to be a success:

1. Nobody wants to see abandoned or abused animals
2. Politically it is profitable to have a city free of stray animals. Spain is a country that receives tourism who is in general very aware and concerned regarding this problem. Abandonment of pets creates discomfort and a bad image for tourism in Europe.
3. The project would generate a reduction in spending of at least 80%
4. The project completely finishes with the figure of the abuse and neglect of pets

### **3. LITERATURE REVIEW:**

Fournier et al (2004), conceptualizes the societal problem of companion-animal overpopulation and offers a framework to humanely reduce the current surplus of animals and prevent further overpopulation. Overpopulation is described as a societal problem, with the individual and collective behaviour of people as a causal agent. To prevent further animal surplus information to the adopters and sterilization schedules are proposed. The humane society of the united states (Hsus) estimates eight to ten million companion animals (i.e., cats and dogs) are relinquished to shelters each year and of those, four to five million are euthanized (Hsus, 2002). In fact, euthanasia is the number-one killer of all companion animals (Sturla, 1993). Is the behaviour of people that has resulted in an overabundance of animals, and to solve the problem people must change their behaviour. Professionals in the behavioural sciences suggest behaviour and environment factors need to be considered when targeting behaviour problems in the community (Geller, Berry, Ludwig, Evans, Gilmore, & Clarke, 1990). Pre-acquisition behaviours are behaviours emitted prior to acquiring a pet in preparation of pet maintenance. They include knowledge

acquisition behaviours and an analysis of necessary resources. Before adopting is important to ensure that the animal and the adopter are compatible to prevent abandon. Studies consistently find that caretakers who relinquish their animals, compared to those who retain them, have much less knowledge about animal behaviour, healthcare, the expenses of animal caretaking, and female canine and feline estrous cycles (Kidd, Kidd & George, 1992; New et al., 2000). Acquiring knowledge about animal behaviour, as well as general animal health care, prior to acquiring a pet could prevent relinquishments. Animal sterilization (i.e., spaying or neutering) is a critical caretaker behaviour associated with control of companion-animal overpopulation. Due to the exponential growth rate of companion animals (Hsus, 2002), sterilization is a critical behaviour that should be targeted in efforts to reduce overpopulation.

Cost is not high on the list of reasons caretakers report for not sterilizing their pets. Researchers surveyed four communities via telephone, querying caretakers (n = 144) about their animals' sterilization status (Manning & Rowan, 1992). Of the 209 animals in the sample, 18.6% were not sterilized. Only 5.3% of the intact animals were reportedly not sterilized because of the cost of the procedure, suggesting that financial cost is not a major impediment to sterilization, and therefore low-cost programs may not be an effective means to combat over population. The deficits in animal-training behaviours, pre-acquisition behaviours, and sterilization are key contributors to overpopulation, but it is important to examine the contingencies surrounding these behaviour deficits in order to alter them.

Current environment factors for overpopulation are a) ineffective shelter policy and b) promotion and inaccurate depiction of animals by the pet industry and the media in general. These environment factors must change in order to initiate and sustain relevant behaviour change.

Many animal shelters have policies that hinder the adoption of animals. For example, some shelters do not allow the public to handle animals before adopting them (H. Wadell, personal communication, August 27, 2002), denying potential caretakers to interact with an animal to ensure they are compatible, a crucial pre acquisition behaviour.

Another ineffective policy is that many animal-control facilities and some shelters do not accept help from volunteers because of injury liability (H. Wadell, personal communication,

August 27, 2002). Volunteers could assist in enforcing shelter policies and act as community change-agents, educating adopters and the public as a whole.

Often shelter policies prohibit staff from asking why an animal is being relinquished. In some cases, caretakers relinquish an unwanted pet and quickly replace it with a new pet that later is also relinquished (Bandow, 1982). These “repeat offenders” are recognized by animal shelter staff but are seldom turned away because shelter policy and a need to place animals do not allow staff to turndown adopters (Arkow, 1991).The most salient example of ineffective shelter administration is the animal shelter facilities themselves.

Most facilities are plain, concrete buildings located in rural areas out of sight of the public. When acquiring a pet, the local animal shelter is dismal and inconvenient, compared to brightly lit, well-advertised pet stores located in the main shopping areas of town.

Regarding to pet industry, the media (television, newspapers, internet) have a great capacity to influence on the behaviour of people. Pet supplies are advertised on television and the Internet, in newspapers and magazines, and on pet-supply packaging (e.g., dog food packs). In these advertisements, animals are typically shown with no collar, tags, or leash. Unacceptable animal behaviour (e.g., chewing on shoes) is portrayed as endearing (Nowell, 1978). In all of these venues, pets are often depicted inaccurately. Media messages depict positive consequences of animal acquisition (i.e., companionship) but do not say nothing about responsibility of having a pet, negative consequences of the behaviour deficits mentioned above (i.e. behaviour problems, personal problems, pet-maintenance failure).

In addition, the animals used in advertisements are often puppies and kittens, again illustrating a behaviour deficit (i.e., sterilization) without the negative consequence of the deficit (i.e., unwanted offspring). The environment factors above are critical to the behaviour deficits resulting in overpopulation.

Promote adoptions: shelters must become more visible and inviting to potential caretakers, thereby promoting adoption. Changes may include moving shelters into urban areas, posting signs advertising the locations of shelters, and renovating shelters to make them more appealing. non-profit organizations and animal-welfare foundations offer grants to shelters for renovation expenses, which could be used to renovate facilities. Animal shelters could benefit from assigning one staff member or a volunteer to fund-raising or grant writing for these purposes.



In order to increase adoptions, it is important for shelter staff to assess animals and improve their chances of being adopted. This could mean using behaviour analysis to train animals in basic pet obedience (e.g., housetraining, walking on leash)

Because most animals in shelters were put there by caretakers and many are the product of unwanted litters (Arkow & Dow, 1984), pet-maintenance behaviours and sterilization are critical behaviours for this task.

Education is a necessary antecedent for the various desired behaviours of every target population. The media is a most effective tool for mass education and awareness. In behavioural science, the media is recognized as a source for information and learning via observational learning (Bandura, 1986).

Animal welfare agencies can prevent overpopulation by enacting and enforcing appropriate policies at animal shelters and animal-control facilities, for example, provide companion animal information, animal-training techniques, sterilization schedules, providing incentives for caretakers who do sterilize their animals and disincentives for those who do not. Staff can help caretakers select an animal that is compatible with their environment and resources. Adoption is a critical point of contact with caretakers, similar to point-of-purchase interventions designed to promote socially-responsible behaviour (Geller, Russ, & Delphos, 1987). Lastly, animal-welfare agencies could be part of a systematic reporting system of overpopulation. Animal shelters are a key source of information as to which caretakers have behaviour deficits that contribute to overpopulation and why. Such a reporting system is necessary to guide prevention efforts and evaluate their efficacy.

The desired behaviour of all those involved in the animal industry is inform consumers about basic pet care and overpopulation prevention strategies. This could be done directly at the point of pet-supply, display informational messages in advertisements and on package labels purchase and informing in media advertisements.

Last but not least, individual caretakers are a relevant target population. The desired behaviours of caretakers are pet-maintenance behaviours, including animal-training and pre-acquisition behaviours, and sterilization.

In order to initiate and maintain the proposed behaviour changes, intervention is necessary to alter these environmental contingencies. For example, offering government funding and

tax breaks for animal shelters and pet suppliers that practice overpopulation prevention, giving rewards for shelter or pet-store staff and animal-control officers active in relevant target behaviours and grants to areas that implement effective policies. Animal-welfare staff could receive the same type of program centred on the behaviours of informing adopters, enforcing policies, and recording companion-animal data. Research shows policies are adopted faster in states that receive these types of incentives, compared to those that do not (Welch & Thompson, 1980).

(M.D. Salman, et al, 1998), carried out a survey in 1996 to 12 shelters of USA and to 3772 (owners) in order to find out what are the causes of pet abandon and how is the profile of people who abandon their animal. The results were the following: el 55% were sacrificed. Cause of abandon were: moving house, no pets allowed in housing, lack of time to deal with, inability to maintain their litters. 79 per cent didn't know anything the reproductive cycle of their animals, which explains the unwanted litters. 54 percent of the animals were purchased from private, family and friends.

The study reveals that animals are at risk of neglect which are not sterile those who have purchased a low cost or null, over 8 months, which breed cage or patio and causing the owner more work than you expect this is especially so if no pets sterile. Otherwise is important that a large percentage of people leaving older than 6 months the animals had purchased as a "gift" whim, gift for your children.

Factors that seem to reduce the number of withdrawals are training classes and sterilization.

Eva Voslárval and Passantinoll (2012), describes the problem of the stray dogs and cats problem in general and the existing European legislation. The growing numbers of stray dogs and cats have posed serious public-health, socioeconomic, political and animal-welfare problems in many EU countries. Problem-solving approaches vary in different countries as there is no common European Community legislation dealing with stray animal control. In this paper the authors describe the characteristics of the stray dog and cat problem in general and focus on existing European legislation. Free-roaming dog and cat population density may vary with habitat, culture, and a variety of socio-economical conditions. Generally, in developing countries many dogs and cats are abandoned on the streets and become part of a stray population. In developed countries, stray and unwanted dogs and cats, pure-breeds included, are usually taken to animal shelters. Although it may

be assumed that the large amount of money paid for a pure breed dog (or cat) would ensure good care and permanent home, this is not always the case and frequently the most popular breeds are relinquished in the greatest numbers.

The southern and eastern EU Member States are home to many stray dogs.

It is important to develop long-term, sustainable strategies to deal effectively with stray animal populations. Local authorities are in a good position to provide expertise and infrastructure for implementation of the dog control service and to meet statutory and societal demands.

The paper describes the character of the stray dogs and cats problem in general and the existing European legislation.

There is no European Community Directive or Regulation dealing with stray dog control. The only international treaty that mentions pet animals is the European Convention for the Protection of Pets (ETS No. 125) introduced by the Council of Europe. The problem is that it only provides very general measures that in practice are ineffective.

In the absence of any normative global framework, in 2005 the World Organization for Animal Health (OIE) started to address the humane control of stray dog populations. An ad hoc group was set up to produce science based measures for the effective and humane control of stray dog populations, to help in preventing zoonotic diseases and to improve animal health and welfare. The conclusions were the following:

Any program that only concentrates on the "end result", such as euthanasia, is provisional and does not solve the initial problem. Strategies to control the overpopulation of free-roaming animals include enforcement of laws, owner education and sterilization of pets. Dog-control programs are more widely applied in more-developed countries. In less-developed countries, dog control programs (if they exist at all) tend to employ killing methods (including poisoned baits). Spay/neuter programs are the best antidote to mass euthanasia, as well as the most humane and financially responsible way to address the pet population problem.

To eliminate the problem of strays, people need to develop compassion and responsibility. In fact, people will be encouraged to act irresponsibly if the right to kill pets is handed to them. The right to practice euthanasia in order to eliminate a self-created problem makes

things easy for politicians and obviates the necessity of teaching their citizens to treat animals with respect.

The authors emphasize that veterinarians universities, public health authorities (national and regional government), animal welfare associations and dog/cat owners play a crucial role in order to solve the problem of stray animals to make the whole community aware of the vital role of citizens in this social challenge. The success of dog and cat control programs depends on a cooperating public.

Organized veterinary medicine can contribute substantially in educating the public. Local, regional, and national veterinary bodies should work through the mass communications media and with local governments, schools, humane societies, and groups of concerned citizens so that the message of responsible pet ownership becomes part of the conventional wisdom.

Enforcement of laws will not, on its own, result in lasting, voluntary changes in behaviour; it needs to be supplemented by a range of non-regulatory approaches such as public education.

In fact, an owner's responsible behaviour toward his pet and his neighbours can only be achieved through education. Campaigns to achieve responsible ownership should include information on the reproductive patterns of pet animals, contraception methods, and essentials of proper maintenance. For example, licensing of pet dogs/cats should increase the owner's sense of responsibility. When pet keeping becomes more costly, people buying animals should have a heightened awareness of the obligations involved.

Licensing helps to combat a primary cause of the problem: owner irresponsibility. Licensing decreased the number of rash decisions and helped to control abandonment of dogs.

Population must be educated to accept responsibility for stray dogs and for their environment in general. Changing the mentality of young people is a sustainable strategy for the future. School children are a particularly receptive audience since they are invariably interested in pets. It could be interesting to develop a School Education Project. The aim of this type of education project is to motivate children to care about animal welfare, and to teach children to understand the importance of neutering, responsible dog ownership and rehoming.

Irvine (2003) argues that organizations sometimes think differently about the problems they intend to solve than do persons involved with these problems in everyday life. This article contrasts the way in which animal sheltering, as an institution, frames the problem of unwanted animals with how the public interprets that problem. Shelters strive to offer resources that allow people to keep their animals in their homes. However, interviews reveal that most people simply want troublesome animals out of their homes. Institutional thinking ignores salient aspects of the conditions persons may associate with the problem in everyday life, which later emerge (Gubrium 1992).

The study examines social problems work within the institutional setting of an animal shelter. Specifically, it compares the way one shelter “thinks” about why people give up unwanted animals with how clients see their reasons for doing so.

Whereas positive strides in sterilization have reduced the numbers of litters, the new majority of shelter animals are adults who failed to become the kind of pets for which their guardians had hoped. This has resulted in another institutional re-framing of the “problem” of unwanted animals. In the 1990s, sheltering organizations began to consider what else (besides sterilization) could “stop stop the flow of animals into the building” (Lawson 2000:10). The local culture of animal sheltering framed its task as increasing the likelihood that people would keep their dogs and cats for life (Irvine 2002; McHugh 1999). This expanded the scope of social problems work to include educating the public about animal health, behaviour, and training. As part of this effort, shelters began remaking themselves as resource centres and not just last resorts. In order to draw people in to seek these resources, shelters sought to become more pleasant places for human and non-human animals. Increasing adoptions meant stepping up public relations efforts, including making adoptable animals more visible through newspaper photos, websites, and bringing them to the people (at community events), rather than waiting for people to come to them.

The animals remained the victims in the reframed “problem” of unwanted pets, but the new claims required a new villain. If shelters were to market themselves as resource centres, then the new villain must be the person who does not use those resources. More specifically, the new villain is an irresponsible, unloving person who does not bring the unwanted animal to a shelter. Shelter workers warn the public of the fates that await animals “on the streets,” or, worse still, when they are offered “Free to a Good Home.” Such ads often bring people in search of dogs, in particular, to sell to dealers who then sell them to medical research labs. The production of the villain implies the concurrent

production of the “good” shelter client. Evidence of this production appears in the way shelters train workers to accept the reasons that guardians offer for surrender without criticism. If surrenders feel guilty, the logic goes, they will avoid shelters, and animals will face “horrifying consequences.” The local culture of shelters thus “creates” guardians who surrender dogs or cats as those who are doing the right thing for the animals.

To “produce” clients as the “good” ones, The Shelter trains workers not to judge, criticize, or even ask probing questions about surrenders, but to take only the necessary information. The intake paperwork requires only a brief, single reason for the surrender, and the computer program that generates it does not allow for lengthy accounts. Indeed, the software forces staff members to select the best reason from options on a pull-down menu. As Loseke argues, the complexities of lived experience may not be convincingly captured in institutional formulations, leading to “discursive disjunctions” (Chase 1995) between incompatible systems of meaning (Loseke 2001:123). In the circumstances confronting shelter workers and their clients, such disjunctions can lead to confusion, conflict, and failure to resolve problems.

The application of formal rationality in this way promotes the predictability that bureaucracy requires. However, the social problems work involved in sustaining the image of “good” clients may also perpetuate the problem that shelters set out to solve.

The major cause of homeless animals is that guardians were moving into places that either did not allow animals or limited the number of animals allowed. It would then seem that making rental housing pet-friendly could go a long way towards solving the problem of homeless animals. Indeed, this is precisely what The Shelter has tried to do. The Shelter makes available, both on paper and on-line, a list of “Animal Friendly Housing” in the area. Yet, when the guardians are asked what steps they had taken to locate housing that would allow their animals, the answer usually boiled down to “none.”

A single reason such as “Moving” might have been the one recorded for surrendering an animal, but this categorization was the product of the interpretive demands of The Shelter’s intake paperwork (see Gubrium, Buckholdt, and Lynott 1989). In a case of what Gubrium and associates (1989) call the “tyranny of forms,” the paperwork makes demands on the staff members who complete them, requiring brief, standardized accounts of complex situations.

Thirty-three percent of those who surrendered dogs for reasons such as moving or allergies also reported a “nonaggressive behavioural problem in the dog surrendered” (Scarlett et al. 1999:45). In addition, most guardians had procrastinated about the surrender for some time, allowing bad situations to worsen until something eventually tipped the scales.

The pet guardian has the option of “solving” the problem by surrendering the animal. Many guardians do not turn to experts when it comes to the health and behaviour of their animals.

Although The Shelter offers numerous alternatives to surrender, adopting one or more of them would require understanding and defining the problem, isolating one problem from others, and accepting an uncertain outcome of, say, training or treatment. For example, a guardian who locates pet-friendly housing might find that her cat’s urination problems continue in the new place. Many guardians simply prefer surrender, which contrasts dramatically with The Shelter’s thinking about a lifetime relationship with an animal. Most people did not consider alternatives to surrender because of a lack of basic knowledge about animals, which results in an inflated estimation of one’s expertise. The lack of knowledge also produces unrealistic expectations about what animals are like and what they need. For example, research sponsored by the National Council on Pet Population Study and Policy, a majority of people (61 percent) don’t have knowledge about the reproductive cycle of their pets. About half of those relinquishing dogs or cats also thought (incorrectly) that animals misbehave to spite their guardians. Similarly, Clinton Sanders (1994, 1999) found considerable ignorance about the care of animals among the clients in the veterinary practice that he studied. Much of the vets’ time went to educating clients and providing instructive literature.

Inadequate knowledge led to a failure to seek information and treatment for animals’ health or behaviour problems, much of which was available through The Shelter. Although many guardians had taken their animals to a vet upon first acquiring him or her, few had consulted vets further once behavioural problems appeared, even when the problems seemed health related. Moreover, many of the behaviour problems occurred among animals who were sexually intact at the time of surrender, but few guardians associated the two factors. Other studies consistently reveal an association between the failure to sterilize an animal and increased risk of relinquishment (Patronek et al. 1996a, 1996b; Salman et al. 1998, 2000; Scarlett et al. 1999; Shore and Girrens 2001).

Few guardians had consulted behaviourists or trainers, both of whom are readily available in the area. In addition, most of the surrendered dogs had received no training, which is consistent with the findings of other studies. The Shelter offers a free “Canine Behaviour” seminar and six months of feline behavioural counseling with each adoption. Yet these resources go woefully underused. Because no one can be required to use them, guardians who choose not to do so miss learning even the basic knowledge that might allow them to keep a newly adopted animal in their home. For instance, a woman returned a dog whom she had adopted just two weeks earlier, saying she could not housebreak him. When asked if she had tried crate training the dog, which is The Shelter’s endorsed method for ensuring successful housebreaking, she said she had never heard of it. In saying so, she revealed that she had neither attended the seminar nor read the material included in her adoption packet, as both convey how-to instructions on the topic and information about The Shelter’s crate rental program.

Because many people considered their existing stock of knowledge about animals accurate and sufficient, they lay the blame for behaviour problems on the animal. When a dog or cat does not behave correctly, guardians assume there must be something wrong with the animal and they become emotionally disconnected from the animal as time goes on. Guardians in this position often used the language that Sanders (1999) calls “unlinking.” This is a public confession that the animal-human relationship itself is in serious trouble. Frustrated and confused, the guilt-ridden owner publicly acknowledges that the animal other is “out of control” (“I just don’t know what to do. I can’t get him to stop barking. I’ve tried and tried but nothing seems to work”) . The fault for the disruptive action is presented as being the animal’s and, in turn, the owner is absolved of responsibility. Understandably, the owner who comes to employ this type of excusing tactic is well on the way to ending his or her relationship with the animal. (P. 36).

Unlinking is lay social problems work, in that it rhetorically casts the “problem” as the animal’s rather than the person’s. Moreover, unlinking language indicates that the animal’s behaviour is so threatening to the guardian’s self-image that he or she has disengaged from any emotional and relational connection with the animal. For example, a man interviewed had surrendered a large dog who pulled constantly on his leash. The family had hoped the dog would be a companion for the young son, who, as it turned out, was not strong enough to walk him. However, no one took any steps to teach the dog to walk without pulling. This guardian had tried nothing and consulted no one, yet claimed that he



did not know what else to do. Most people simply did not know about the resources available to them as alternatives to surrender.

The failure to seek information or assistance was particularly striking in the context of behavioural problems. Few people who surrendered dogs for aggression to other dogs had consulted with a behaviourist. The Shelter offers training classes and the trainers will do private consultations for specific problems, but most people neither made use of these resources nor consulted their veterinarian during routine visits.

Frequency of visits to a veterinarian is associated with decreased risk of relinquishment among dogs (Patronek et al. 1996b). However, Instead of seeking advice, many people simply surrendered their dogs, using unlinking language such as, “We just don’t know what to do.”

Many of the alleged behaviour “problems” in dogs and cats stemmed from guardians’ ignorance about breed characteristics or developmentally normal behaviours. There is a consistent failure to use resources among people who surrendered cats for the most common feline behavioural problem: urinating outside the litter box. This behaviour is often due to urinary tract problems, but few guardians who surrendered cats had even taken the step of seeing a veterinarian. Only half of the guardians who surrendered cats for litter box problems had ever taken their cat to a veterinarian. This finding, too, is supported by other studies. Gary Patronek and associates (1996a) found that cats who had never visited a vet were at increased risk for relinquishment, compared to cats who had been to a vet.

The institutions provides ample information about animals’ needs, but the clients toward whom that information is directed do not see the problem as one solved by information.

As Loseke argues, the complexities of lived experience may not be convincingly captured in institutional formulations, leading to “discursive disjunctions” (Chase 1995) between incompatible systems of meaning (Loseke 2001:123). Such disjunctions can lead to confusion, conflict, and failure to resolve problems.

In conclusion, The institution of sheltering thinks about the animal problem in terms of providing practical solutions to a public that is cast as sharing similar concerns. Moreover, those who are not receptive to such solutions and would prefer to “get rid of” their animals can do so and maintain their moral identities as the “good” ones. Making surrender easier for guardians is effective social problems work, in that it enhances the organization’s

image in the community, but it decreases the likelihood that guardians will take any steps to improve things. Because shelters unquestioningly absorb the results of the public's irresponsibility, they may protect people more than they do animals. Shelters essentially say to the public, "We will take in your canine and feline mistakes and inconveniences, and we will shield you from the 'dirty work' that takes place here." In most shelters today, the majority of animals are not sickly strays or litters of puppies and kittens, but healthy, unwanted, adult pets. About 80 percent of these animals do not find new homes. Instead, they are humanely killed.

A client is defined as "good" for surrendering an animal when a problem occurs. However, from the perspective of the institution, most problems can be solved using The Shelter's resources and solutions. The key institutional problem is that clients do not use the resources provided. Thus, the "good" client who surrenders a problematic animal is simultaneously a "bad" client who remains ignorant despite the efforts of the institution. There is significant different between the institutional and public definitions of the problem and its solutions.

Baetz (1992) conducted a survey by the US National Animal Control Association in 1981 revealed 918 people surrendering their dogs for adoption at 13 shelters in eight states. This survey stereotyped the situations in which a dog is thought to be disposable. The greater the cost of the dog, the longer it was kept. More than two-thirds of the unwanted dogs were obtained cost free. It was concluded that the degree of attachment and the depth of the human-animal companion bond is directly related to the financial investment in the animal.

Usually, the dog was obtained free of charge, usually from a neighbour, friend or newspaper ad as a puppy, often bought as a treat or gift for children. It was kept usually about 18 months before being turned in because of changes in the family's lifestyle, real or imagined, behavioural problems, or requiring too much time and responsibility. Most of them end up abandoned on the streets, causing traffic accidents, livestock damages, bites, threat to the ecosystem (faeces and urine), or are sent to a kennel where they will be slaughtered. All these events generate an important cost to the society. The author proposes some measures to palliate the problem, such as imposition of fines to people who abandon animals, limiting pet ownership, registration and identification or obedience training.

Selby et al (1979) carried out a survey to 910 people in Usa, finding out that, respondents consider irresponsible owners as the major cause of too many stray animals, pet overpopulation is a major problem in our society today, stray or free-roaming dogs caused accidents. Opinions about methods of controlling pet or stray animal populations reveal that respondents generally agreed that family planning for dogs and cats is a good idea. Most respondents disagreed that ordinances or registration would prevent them from having a cat or dog. 70 percent disagreed or strongly disagreed on not having their pets neutered, 8 percent of the owners disagreed or strongly disagreed that they would not want to own a dog because it might annoy the neighbours. 97 percent agreed that the issue of irresponsible pet owners was a problem in our society. Most respondents also agreed that pet overpopulation is a problem. Several conclusions can be drawn from the study results. Although people in general are knowledgeable about the issue of irresponsible pet ownership, responsible pet ownership must be stressed in community health education, extension, and continuing education programs.

Guseva (2013) indicates that those countries that have established rules governing somehow the breeding and sale of animals have a very low dropout rate.

The hypothesis that the author poses for reaching this conclusion are:

Hypothesis 1: The greater the degree of economic development, the lower the population of stray animals.

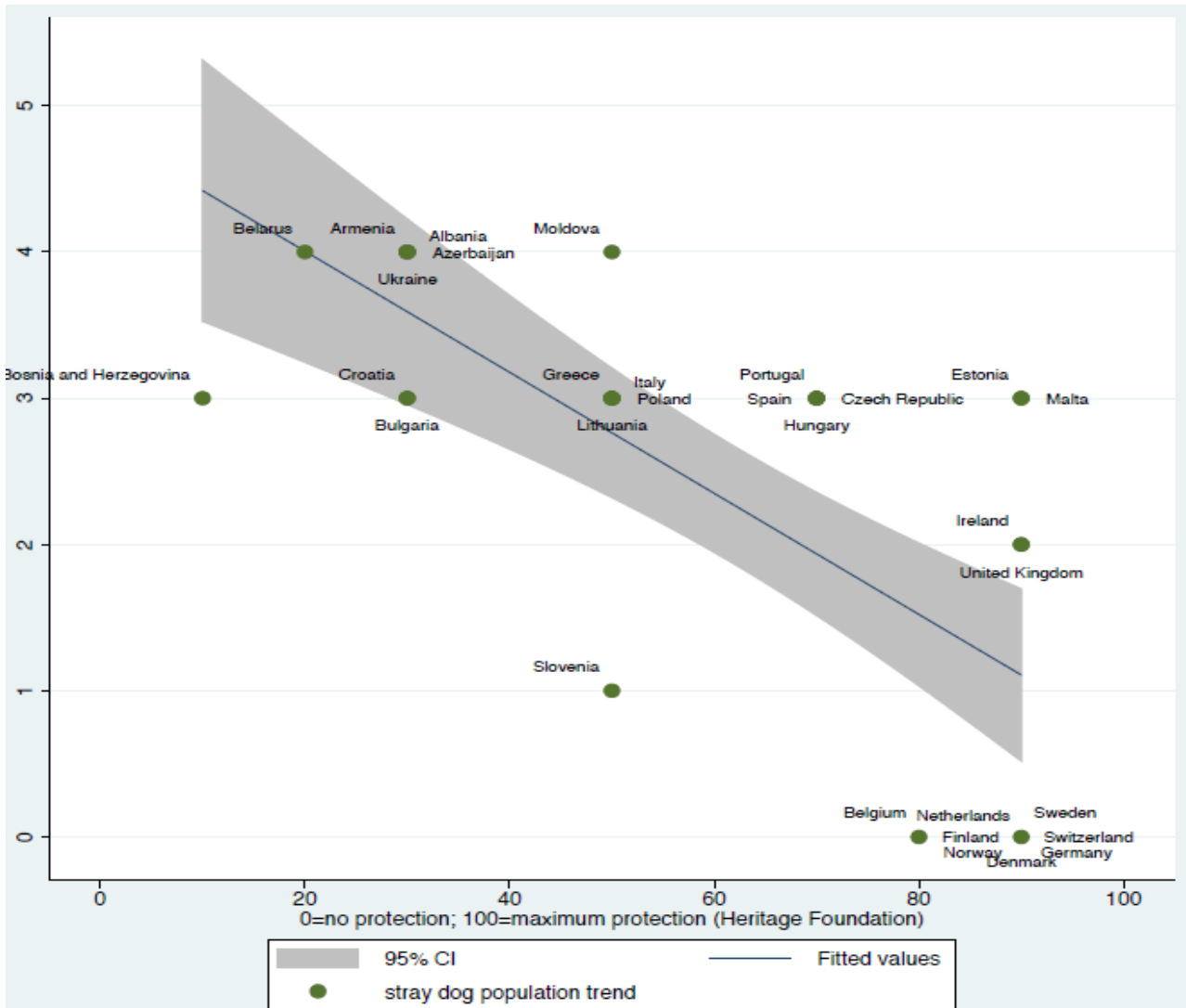
Hypothesis 2: A higher level of democratization of the minor country is the population of stray animals.

Hypothesis 3: The greater the degree of legal protection (including aspects regulating the breeding and sale), the lower the population of stray animals.

To determine if these variables are statistically significant, a regression where the dependent variable is the population of abandoned several European countries (data from the report of the World Society for the Protection of Animals (WSAP) in 2007 animals is done, collecting a sample of 21 countries in Europe and Eurasia and its estimated population of abandoned animals between 1999 - 2007 The countries were divided into 4 categories according to the volume of abandoned animals that have:

Coding category	Description	Countries
0	Reportedly no stray dogs, comprehensive legislation, well enforced stray dog control	Belgium, Denmark, Finland, Germany, The Netherlands, Norway, Sweden, Switzerland
1	Low number of strays, progressive legislation, well enforced stray dog control	Slovenia
2	Relatively large stray dog population, but the size of stray dog population is decreasing, good legislation, stray dog control not always enforced	Uk, Ireland
3	Large stray dog population, ongoing problem, general legislation, poorly enforced stray dog control	Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Italy, Lithuania, Malta, Poland, Portugal, Serbia, <u>Spain</u>
4	Large uncontrolled stray dog population, worsening situation, limited or non-existing legislation, poorly enforced or non-existing stray dog control	Albania, Armenia, Azerbaijan Republic, Belarus, Moldova, Ukraine

Table 1 The coding system



Graph 1. The stray dog problem and the Property Rights

The results obtained by ordinary least squares are as follows:

	Coefficient (Standard error)
Property Rights	-0.037 (.01)*
GDP per capita	0.022 (.05)
Human Rights	-0.257 (.05)
Regime Type	0.007 (.22)
Constant	
Model	0.00
R-squared	0.54
Adj. R-squared	0.46

Table 2. Ordinary Least Squares (OLS) Regression Analysis of the stray dog problem

As we can see, only the legislation is statistically significant, so that higher the level of legislation, the lower the population of stray animals. This is what explains the difference in the number of abandoned animals European countries

To confirm this result, the author makes a comparison of the legislation on this issue between two countries with similar characteristics. Slovenia and Russia are very similar to make this comparison.

Legislation	Slovenia	Russia
Animals welfare	Yes, national	No
Abandonment	Yes, national	No
Pet ownership	Yes, national	No
Pet care	Yes, national	No
Euthanasia	Yes, national	Yes, national
Strays	Yes, national	No
Stray collection	No	Yes, national
Animal shelters	Yes, national	No
Dangerous dogs	No	No
Breeding	Yes, national	No
Sale	Yes, national	No
Animal cruelty	Yes, national	Yes, national

Table 3. Companion animal ownership Laws in Russian and Slovenia

Clearly we see that Russia only has regulations governing the population of stray animals and therefore has a lot of bounce in its streets, becoming an epidemic.

Slovenia regulates more broadly and efficiently the problem and this is the reason why the population of stray animals is scarce. Therefore legislation has positive effects to reduce dropouts.

Finally, Shi-Miin Liu and Hsiao-Chi Chen (2014), in their study "Solving Stray-Animal Problems by Economics Policies", try to propose policy solutions for the stray-animal problems through rigorous economic modeling. A two-stage game is constructed to investigate optimal policies to solve or lessen the issues and negative externalities resulted from stray animals. In the first period, the regulator chooses between subsidizing and taxing the purchase of companion animals. Then, consumers decide to buy or adopt dogs/cats in the second stage. Afterwards, the companion animal market, which is perfectly or imperfectly competitive, is cleared. We use a simple Hotelling (1929) model here to endogenize the behaviors of pet animal purchasers and adopters. The solution shows that if the regulator aims to minimize the number of stray animals or the associated

environmental damage caused by them, taxing pet animal buyers is the only optimal choice. This finding remains true under the perfectly and imperfectly competitive markets of pet animals.

### The model

The authors use a simple Hotelling (1929) model to characterize the behaviors of dogs/cats purchasers or adopters. Let these animal consumers be uniformly distributed over a unit location interval  $[0, 1]$ . They either buy the dog/cat from pet shops or adopt it from animal shelters or streets. Suppose that pet shops are located at end-point 0, and dog/cat shelters are located at end-point 1. If a consumer located at point  $y \in [0, 1]$  buys a dog/cat from pet shops, she/he will have utility:

$$U_y = h_0 - c_0y - t - p \quad (1)$$

where:

$h_0 > 0$  is the happiness level from buying a dog/cat,

$c_0y$  is the cost to raise the purchased pet,

$t$  is the taxes ( $t > 0$ ) paid or the subsidies ( $t < 0$ ) obtained from the regulator,

$p$  is the purchase price of the dog/cat.

In contrast, if consumer  $y$  adopts a dog/cat from animal shelters or streets, she/he paying neither price nor tax will have utility.

$$U_y = h_1 - c_1(1 - y) \quad (2)$$

where:

$h_1 > 0$  is her/his happiness level

$c_1(1 - y)$  is the cost to raise the adopted dog/cat.

Unequal values of  $h_0$  and  $h_1$  reflect distinct happiness levels through buying and adopting dogs/cats, respectively. Also different values of  $c_0$  and  $c_1$ , imply that the costs to raise a purchased dog/cat or a stray animal may not be the same.

By making  $U_y$ 's in (1)-(2) equal, we have the demand function for pet shops,



$$x = \frac{h_0 - h_1 + c_1 - t - p}{c_0 + c_1} \quad (3)$$

and the demand function for strays from animal shelters and streets,

$$1 - x = \frac{h_1 - h_0 + c_0 + t + p}{c_0 + c_1} \quad (4)$$

To have  $x \in (0, 1)$ , the following condition is imposed:

$$h_1 - c_1 + t + p < h_0 < h_1 + c_0 + t + p \quad (4.1)$$

The consumer surplus CS of having a dog/cat is:

$$CS(p, x) = \int_0^x (h_0 - c_0 y - t - p) dy + \int_x^1 [h_1 - c_1(1 - y)] dy = h_1 - \frac{c_1}{2} + x[h_0 - h_1 + c_1 - t - p - x] \quad (5)$$

Pet shops are presumed to provide identical animals at a constant marginal cost  $\bar{c} > 0$ . These shops can compete perfectly or imperfectly. Given the pet animal demand  $x$  (equation 3), we can derive the associated equilibrium price ( $p^*$ ), equilibrium quantity ( $q^*$ ), and producer surplus ( $\pi^*$ ), for all pet shops in a perfectly competitive market. In contrast, we use  $\hat{p}$ ,  $\hat{x}$ , and  $\hat{\pi}$  to denote the equilibrium price, equilibrium quantity, and producer surplus for all pet shops in an imperfectly competitive market.

Next, the social welfare function, (SW), is the sum of consumers' surpluses, producers' surpluses, tax revenues and negative externality values caused by stray animals

$$SW = CS(p^*, x^*) + \pi^* + t x^* - d[Q - (1 - x^*) + r_0 x^* + r_1(1 - x^*)] \quad (6)$$

in a perfectly competitive market

$$SW = CS(\hat{p}, \hat{x}) + \hat{\pi} + \hat{t} \hat{x} - d[Q - (1 - \hat{x}) + r_0 \hat{x} + r_1(1 - \hat{x})] \quad (7)$$

in an imperfectly competitive market

where:

$r_0$  and  $r_1$  are the probabilities of consumers abandoning their dogs/cats after buying and adopting them, respectively

$Q - (1 - x^*) + r_0 x^* + r_1(1 - x^*)$  and  $Q - (1 - \hat{x}) + r_0 \hat{x} + r_1(1 - \hat{x})$  are the numbers of stray animals in the society at the end of the period.

Here parameter  $d > 0$  represents the marginal damage resulted from stray animals.

Maximizing social welfare:

Suppose that the market supply function of dogs/cats is  $p(x) = c + \beta x$ , with  $\alpha, \beta > 0$  and  $\alpha^2 > c_2$ .  $c > 0$  is the constant marginal production cost of all pet shops. Together with the market demand for  $x$  defined in equation (3), the equilibrium price and quantity of pets can be fined:

$$p^* = \frac{\alpha(c_0 + c_1) + \beta(h_0 + c_1 - h_1 - t)}{c_0 + c_1 + \beta} \quad (8)$$

$$x^* = \frac{(h_0 + c_1 - h_1 - t - \alpha)}{c_0 + c_1 + \beta} \quad (9)$$

At  $p^*$ ,  $x^*$  the producer's surplus of all pet shops are:

$$\pi^* = (p^* - c^*) x^* \quad (10)$$

The consumer surpluses in equation (5) become:

$$CS(p^*, x^*) = h_1 - \frac{c_1}{c_2} + x^* [h_0 - h_1 + c_1 - t - p^*] - \frac{x^{*2}}{2} (c_0 + c_1) \quad (11)$$

and the social welfare function in equation (6) changes to:

$$SW = h_1 - \frac{c_1}{c_2} + x^* [h_0 + c_1 - h_1 - c] - \frac{x^{*2}}{2} (c_0 + c_1) - d[Q - (1 - x^*) + r_0 x^* + r_1(1 - x^*)] \quad (12)$$

The regulator will choose  $t^*$  to maximize the social welfare. The associated first-order and second order conditions are:

$$\frac{\partial SW}{\partial t} = \frac{-1}{c_0 + c_1 + \beta} [h_0 + c_1 - h_1 - c - x^* (c_0 + c_1) - d(1 + r_0 - r_1)] \quad (13)$$

$$\frac{\partial^2 SW}{\partial t^2} = \frac{-(c_0 + c_1)}{(c_0 + c_1 + \beta)^2} < 0 \quad (14)$$

Since the social welfare function is strictly concave in  $t$  implied by (14)  $t^*$  can be derived as follows:

$$t^* = \frac{c_0 + c_1 + \beta[c + d(1 + r_0 - r_1)]}{c_0 + c_1} - \alpha - \frac{(h_0 + c_1 - h_1)}{c_0 + c_1} \beta \quad (15)$$

At  $(t^*, p^*)$ , condition equation (4.1) is reduced to:

$$h_1 + \epsilon - c_1 + d(1 + r_0 - r_1) < h_0 < h_1 + c_0 + \epsilon + d(1 + r_0 - r_1) \quad (16)$$

where  $x^*$  and  $p^* > 0$

Supposing that condition (16) holds, the subgame perfect nash equilibrium under perfect market pet is:

$$t^* = \frac{c_0 + c_1 + \beta[c + d(1 + r_0 - r_1)]}{c_0 + c_1} - \alpha - \frac{(h_0 + c_1 - h_1)}{c_0 + c_1} \beta$$

$$\geq (\leq) 0 \text{ iff } \alpha + \frac{(h_0 + c_1 - h_1)\beta}{c_0 + c_1} \leq (\geq) \frac{(c_0 + c_1 + \beta)[c + d(1 + r_0 - r_1)]}{c_0 + c_1} \quad (17)$$

$$x^* = \frac{(h_0 + c_1 - h_1 - c - d(1 + r_0 - r_1))}{c_0 + c_1} > 0 \quad (18)$$

$$p^* = \alpha + \frac{\beta(h_0 + c_1 - h_1 - c) - d(1 + r_0 - r_1)}{c_0 + c_1} > 0 \quad (19)$$

If condition (16) holds, the following results are obtained:

Lemma 1

(i)  $\frac{\partial t}{\partial r_0} = \frac{d(c_0 + c_1 + \beta)}{c_0 + c_1} > 0$  and  $\frac{\partial t}{\partial r_1} = \frac{-d(c_0 + c_1 + \beta)}{c_0 + c_1} < 0$  when probability of abandonment of bought pets is high, the optimal solution is increase taxes; when probability of abandonment of adopted pets is high, the optimal solution is decrease taxes

(ii)  $\frac{\partial t}{\partial h_0} = \frac{-\beta}{c_0 + c_1} < 0$  and  $\frac{\partial t}{\partial h_1} = \frac{\beta}{c_0 + c_1} > 0$  when happiness of buying a pet is high, the optimal solution is decrease taxes or subsidize purchasing of pets, and just the opposite if the happiness of adopting a pet is high

(iii)  $\frac{\partial t}{\partial \alpha} = -1 < 0$  and  $\frac{\partial t}{\partial d} = \frac{(c_0 + c_1 + \beta)[(1+r_0-r_1)]}{c_0 + c_1} > 0$ ; when the market of pets is small, the optimal solution is decrease taxes; when the marginal externality of strayed dogs/cats is high, the optimal solution is increase the taxes

(iv)  $\frac{\partial t}{\partial c_0} = \beta \frac{(h_0 + c_1 - h_1 - c - d(1+r_0-r_1))}{c_0 + c_1} > 0$  and  $\frac{\partial t}{\partial c_1} = \frac{-\beta(h_1 + c_0 + c + d(1+r_0-r_1) - h_0)}{(c_0 + c_1)^2} < 0$

(v)  $\frac{\partial t}{\partial c} = \frac{c_0 + c_1 + \beta}{c_0 + c_1} > 0$  if the cost of breeding or purchasing are high, the regulator should promote adoptions, (by increasing taxes or lowering subsidies), and just the opposite if the cost of breeding or purchase is low

### Minimizing the Number of Stray Animals

If the objective is to minimize the number of strayed dogs/cats, the regulator choose which is the optimal value of "t" to solve the problem of:

$$\min_t Q - (1 - x^*) + r_0 x^* + r_1 (1 - x^*) \quad (8)$$

$$\text{st } \underline{t} \leq t \leq \bar{t}$$

under a perfectly competitive pet market

where:

$r_0$  and  $r_1$  are the probabilities of consumers abandoning their dogs/cats after buying and adopting them, respectively

$Q - (1 - x^*) + r_0 x^* + r_1 (1 - x^*)$  and  $Q - (1 - \hat{x}) + r_0 \hat{x} + r_1 (1 - \hat{x})$  are the numbers of stray animals in the society at the end of the period

The regulator is allowed to subsidize or tax the purchase of dogs/cats. Thus,  $t$  can be negative or positive. To make sure the existence of the solution, we impose an upper bound for tax ( $\bar{t}$ ) and subsidy( $\underline{t}$ ).

$$\text{Define Lagrangian function } L = Q - (1 - x^*) + r_0 x^* + r_1 (1 - x^*) - \lambda_1 (t + \underline{t}) + \lambda_2 (t - \bar{t}) \quad (9)$$

The associated first-order conditions are

$$\frac{\partial L}{\partial t} = (1 + r_0 - r_1) \frac{\partial x}{\partial t} - \lambda_1 + \lambda_2 \geq 0, \quad t. \quad \frac{\partial L}{\partial t} = 0 \quad (10)$$

$$\frac{\partial L}{\partial \lambda_1} = -t - t \leq 0, \quad \lambda_1. \quad \frac{\partial L}{\partial \lambda_1} = 0 \quad (11)$$

$$\frac{\partial L}{\partial \lambda_2} = -t - t \leq 0, \quad \lambda_2. \quad \frac{\partial L}{\partial \lambda_2} = 0 \quad (12)$$

By letting  $\lambda_2 = \frac{1+r_0-r_1}{c_0+c_1+\beta} > 0$  we obtain the unique solution, i.e.,  $\tilde{t} = \bar{t}$ . It implies that the regulator will choose to tax pet shops, and will set the tax rate as high as possible. On the other hand, if the regulator aims to minimize the environmental damage caused by stray animals, it will choose an optimal tax or subsidy to solve the problem of

$$\min_t \quad Q - (1 - x^*) + r_0 x^* + r_1 (1 - x^*) \quad (13)$$

$$\text{st } \underline{t} \leq t \leq \bar{t}$$

It is easy to see that the solutions of this problem is the same as the previous problem. the same arguments can be applied to the imperfectly competitive pet animal market.

## Results

If the objective aims to maximize the social welfare, the regulator will raise the taxes or lower the subsidies. For instance, when the happiness from purchasing dogs/cats ( $h_0$ ) or cost of raising adopted strays ( $c_1$ ) is large, it is optimal for the regulator to subsidize the purchase of dogs/cats to enhance the surpluses of consumers and producers. In contrast, if the happiness from raising adopted strays ( $h_1$ ) is high, the cost of breeding dog/cats is high, the marginal damage ( $d$ ) caused by the strays is high, the probability of abandoning adopted strays is small or the number of pet shops are large the regulator should tax the purchase of dogs/cats. In this last case, if the number of pet shops is high, then the price of pet animals will fall and the equilibrium quantity increase. This implies that fewer stray animals will be adopted, and more negative externalities will be caused by them. To lower these externalities, the regulator should raise the taxes or lower the subsidies to promote the adoption of stray animals.

These findings hold no matter that the market structure of pet animals is perfectly or imperfectly competitive, that the cost function to breed pet animals is linear or quadratic, or that the environmental damage caused by strayed animals is in linear or quadratic form.

If the regulator aims to minimize the number of stray animals or the environmental damage caused by them, taxing pet animal buyers is the only optimal choice. This finding remains true under both the perfect and imperfect market of pets.

The authors finished their work proposing that it would be interesting to explore alternative policy instruments like subsidizing consumers' adopting strayed animals under the same criteria used by this model and see what policy instrument is more effective.

The study developed in this Master thesis aims to emphasize that none of the measures proposed in the literature review solve the issue of animal abandonment. The factors that most influence on the abandon of domestic animals is linked to the lack of legislation on the breeding and sale of these animals. Therefore, to solve this problem is necessary to establish specific rules for its regulation and also act over other factors

#### **4.OBJECTIVES OF THE STUDY:**

The objectives of this study are the following:

1. Proposing a package of measures to solve the abuse and neglect of domestic animals.
2. Reducing spending to a quarter (80% reduced).
3. Vastly improve the quality of life of animals
4. Preventing and eradicate the anguish suffered by most people sensitive to the problems associated with abuse and neglect of animals
5. Exponentially improve the damaged image of cities with problems of abuse and neglect of animals

## 5.CAUSES OF ABANDON IN SPAIN:

1. Pets gifted to a child for his birthday, Christmas etc. These animals grow, cease to be a toy and are abandoned in a very high percentage.
2. Compulsive buying of the animal. Someone saw the animal in a shop or mall, bought it and after a few days or months, the animal begins to be a burden and a problem and is abandoned.
3. Persons of no fixed abode that for different reasons can't continue having the animal being abandoned
4. Lack of time to attend the animal
5. The Animal gets sick and is abandoned to avoid expenses
6. Vacation
7. The animal gets old, no longer plays, and becomes a burden.
8. The animal is used for some kind of activity (like greyhounds), and when is not useful is abandoned
9. Birth of animals for lack of sterilization or excess of production in uncontrolled hatcheries

Analyzing the causes of abandonment, it is immediately noticed that the common link between them is ignorance, lack of information and lack of legislation or regulations in this regard (for what is not forbidden is allowed). Most part of owners justify the abandonment on the basis of lack of knowledge and information. The shops just want to sell animals and animal buyers often purchase as a gift or whim without any responsibility or liability.

Abandon of pets has at least five visible actors:

1. **The owner who abandon** the animal. In Spain are abandoned over 300.000 animals per year, currently increasing.
2. **Municipal kennels** that mostly make slaughterhouses and dumps of these animals, with increased costs
3. **Politicians**, usually Local Authorities and mayors, who have to deal almost daily with bad news on television or newspaper referred to the abuse or neglect of animals in their area. Besides the political costs that obviously has, abuse and neglect also lead to a significant monetary cost, which have to deal with this never ending problem because the animal that is picked up from the street and sent to a kennel can re- be abandoned again if appropriate measures are not taken.
4. **Protective Associations** of abandoned animals form a kind of salvation army voluntarily and with good intentions try to solve the problem looking for new owners for these animals but ultimately do not solve the underlying problem because the animal can be abandoned again. The work that these people do sometimes without been paid and their own funds they also have to put to take care of these abandoned animals can reach millions of euros each year. These costs, as apparently nobody is obliged to defray (because the protective also could have left abandoned dog on the street), is just socialized via "the one who put the most, loses", which is a big mistake, because in the end, the real responsible of the problem, the owner who abandons the animal does not pay anything, (Therefore, the responsible of the abandon has to pay and face the problem, socialization of the costs must be avoided).
5. **Society as a whole**, because every time people turn on the television or read the newspaper face to news related to neglect and abuse of animals, with the consequent anguish suffered by most people sensitive to the problems associated with animal abuse and neglect.



## **6. CONSEQUENCES AND REAL COST OF ANIMAL ABUSE AND ABANDON**

Abandonment of animal generates significant public health problems and accidents. The daily cost of keeping an animal in a shelter is between 12 and 20 €, which produces real costs between 4.000.000 and 6.000.000 € per year approximately (after paying for shelter, food, caregivers, cleaning, veterinarians, etc..). If the cost is lower the animal has not been well addressed, as the staff is volunteer, don't receive remuneration and sometimes even have to defray.

## **7. SOLUTIONS:**

The definitive solution to the problem of abandoned pets in Spain requires the implementation of a package of measures which basically consists in three actions to be managed coordinately and simultaneously:

1. Annexing to the existing regulations in each AUTONOMOUS COMMUNITY or council an article that specifically regulates the breeding and sale of domestic animals (in principle dogs and cats)

Currently there are about 100 legal texts (including state, provincial and local), acting and regulating the abuse and neglect of animals.

A close reading of these texts reveals that none strikes the main source of the problem, which is the breeding and sale of animals. Drawing from the idea that the goal is to protect the animal against neglect and abuse, unregulated buy and sale can't be afford no way. Neither protective associations and individuals seeking to solve this problem, nor sterilization of animals will never eradicate the problem without legislation specifically regulating the breeding and sale of animals.

2. Creation of zoological centre of public ownership and private management to carry out everything related to pets.
3. Creation and implementation of a software and computer program which efficiently controls the entire schedule of the animal's life so the centre can know exactly any incident related to any existing pet into a territory.

Depending on the capacity and available resources of the Administration three levels of performance can be designed, small, medium and large centres. Ideally would be to have large regional centres including recreational areas, activities and services such as veterinary services, hairdressing, advice, ethology, residences, workshops for children, conducting briefings, pet daycare, shops, reception, animals collection service, offering the possibility of sponsorship and visits at weekends for those who can't have pets but would like to visit the animals and share their spare time with them. The location of the centres is very important and should always look for the proximity and ease of arrival and departure of the enclosure.

## **8.FUNCTIONS OF THE CENTRE:**

- 1** This centre will manage everything related to pets during the lifetime of the animal. The breeding and selling pets can only be made in these centres and shops or on authorized breeding centres that will follow the rules adopted for this purpose
- 2** Breeding and selling animals per request , animals won't be breed in advance to avoid stocks
- 3** Delivering of talks, teaching courses to adopters, awareness of the responsibility of having an animal, workshops and educational activities for children, veterinary services, ethologists, residence, nursery., hairdresser and advising. If adopters are going on vacation they can leave animals in the residence centre. If people don't have space or time to have an animal, the centre offers the possibility of sponsoring, visits at weekends, taking the animal at tome during the weekends if they want to, participating in different activities (like walking the dogs), and facilitate as far as possible access to the centre, location and opening hours are crucial.
- 4** Before giving an animal in adoption must be analyzed its character and needs, the characteristic of the adopter, (his free time, his personality), and the conditions under the pet will be (housing characteristics) in order to satisfy completely both the needs and welfare of the animal and the adopter, facilitating at any time access and communication with the centre, services, information, advising, etc.

- 5 Formalize a contract of sale in which all requirements are stated (obligations of the adopter to the animal). It is no mandatory to have an animal, but if people decide to adopt a pet, the adopter must meet a number of responsibilities and obligations.
- 6 Conduct regular monitoring to ensure that the animal is well conditions, put chip, vaccines, sterilization, establish a schedule revisions, etc..
- 7 Ensure that there are no animals without control of the centre, the entire management must be centralized, external shops, breeders and veterinarians must be communicated and report of their activity to the centre, following the same rules.
- 8 If for any reason the adopter can no longer taking the animal, this will be returned to the centre without any problem or cost to the owner

## **9. PROJECT FINANCING:**

In times of crisis as we suffering is difficult to get funding but considering that the major expense is the initial short-term, cost will be minimal as there won't be abandons, that generate an expenditure of 4 and 6 million annually, funded by grants and voluntary contributions in the form of money or labour. With a management like the one proposed here, spending would be reduced by 80% (from 6.000.000 spending to only € 1.2 million), and most importantly, end of neglect and animal abuse.

Running a zoological Centre, regardless of the chosen size, will require at least the following components: Land, buildings, parking lots, service area and staff.

Expenses related to the field and works must necessarily be borne by the government to promote the centre, but it is highly likely they decide to start the project considering that the return policy is assured and also would not have to defraying the costs of kennels or subsidize animal shelters.

Politically is very profitable to boast of a region without animal abandonment, especially in the Canary islands, international reference that receives tourism very sensitive to this problem who also provides a very important source of income for our community.

With regard to expenditure of staff, all staff work as self-employed (vets, trainers, shops, hairdressers etc..) or by the volunteer system. Currently all municipalities have protective associations and Kennels that will disappear in the short and medium term because

abandonments will end up as soon as an effective animal control is exercised throughout their lives by the Centre animals Zoo territory. The volunteer staff currently operating in those associations, protective or kennels could be incorporated into this new project for tasks such as food, transportation, cleaning, security or any other activity that does not need specific legal or professional qualification (like veterinarians)

This staff will be doing the same work they currently do but under better conditions.

In relation to the current expenditures of the Local authorities for the attention of municipal kennels two types of costs must be distinguished:

**A. Monetary cost.** Almost all municipalities have a kennel or are associated with other municipalities who have it. Anyway, the average expenditure per dog from arrival to adoption or sacrifice is about 600 €. A city like Las Palmas enter daily on average about 20 animals. If we multiply 20 by 600 € gives € 12.000 per quarter (if there is less overhead the animals are been poorly treated)

**B. Political cost:** Although is not economically measurable, has bigger repercussion and is more difficult to solve than monetary cost. The bad press kennels always have and ongoing news in newspapers, television and protests against animal abuse and neglect is more than enough and politically justify spending that may initially result in the creation of the Zoological Centres. It must be taken in consideration that the creation of a centre of this type means the end of kennels in the short to medium term as a result of an effective control of the animals. Furthermore, shorten or lengthen the time depends solely on the ability and commitment of the Administration to initiate the project. The fast they are able to enforce the rules, the fast the problem will be solved.

The lack of official statistics on abandonment, abuse, costs and other variables necessary for a full cost-benefit analysis makes the actual work quite complicated and more time for completion is required, but the implementation of this project would fall at least 80% of these costs.

This study will be further developed in a PhD and submitted to the competent authorities of the Autonomous Region for implementation.

## 10. CONCLUSIONS

The existence of abandoned animals in Spain needs an urgent solution. This solution must necessarily pass through the simultaneous implementation of a package of measures to solve this problem. This package will necessarily have to include three main aspects:

1. Annexing to existing regulations in each Autonomous Community or council an article that specifically regulates the breeding and sale of domestic animals (in principle dogs and cats)
2. Creation of zoological centres of public ownership and private management to carry out everything related to pets.
3. Creation and implementation of a software and computer program which efficiently controls the entire schedule of the animal's life so the centre can know exactly any incident related to any existing pet into a territory.

## 11. References:

- Angela K. Fournier and E. Scott Geller. 2004 Behaviour analysis of companion-animal overpopulation: a conceptualization of the problem and suggestions for intervention.
- Arkow, P. (1991). Animal control laws and enforcement. *Journal of the American Veterinary Medical Association*, 198, 1164-1172
- Arkow, P., & Dow, S. (1984). The ties that do not bind: A study of the human-animal bonds that fail. In R. K. Anderson, B. L. Hart, & L. A. Hart (Eds.), *The pet connection: Its influence on our health and quality of life* (pp. 348-354). Minneapolis, MN: University of Minnesota.
- Baetz A. 1992. *Why We Need Animal Control*
- Bandow, J. (1982). Animal control – A positive approach. *Pets in Society: Social Importance of Pets in an Aging Society*, 138.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Upper Saddle River, NJ: Prentice Hall
- Chase, Susan E. 1995. *Ambiguous Empowerment: The Work Narratives of Women School Superintendents*. Amherst:University of Massachusetts Press.
- Geller, E. S., Berry, T. D., Ludwig, T. D., Evans, R. E., Gilmore, M. R., & Clarke, S. W. (1990). A conceptual framework for developing and evaluating behaviour change interventions for injury control. *Health Education Research*, 5 (2), 125-137.
- Geller, E. S., Russ, N. W., & Delphos, W. A. (1987). Does server intervention training make a difference? An empirical field evaluation. *Alcohol Health & Research World*, 11 (4), 64-69.
- Gubrium, Jaber F., David R. Buckholdt, and Robert J. Lynott. 1989. "The Descriptive Tyranny of Forms."
- Gubrium, Jaber. 1992. *Out of Control: Family Therapy and Domestic Order*. Newbury Park, CA: Sage.
- Guseva V. 2013 *Dog Ownership through the Eyes of a Stray Dog: Property Rights and the Stray Dog Population*
- Hotelling, H. (1929). "Stability in Competition." *The Economic Journal*, 39(153):41-57.
- Irvine, Leslie. 2002. "Animal Problems/People Skills: Emotional and Interactional Strategies in Humane Education." *Society & Animals* 10:63–91
- Irvine Leslie 2003.*The Problem of Unwanted Pets: A Case Study in How Institutions "Think" about Clients' Need*
- Kidd, A.H., Kidd, R.M., & George, C.C. (1992). Veterinarians and successful pet adoptions. *Psychological Reports*, 71, 551-557.
- Lawson, Nancy. 2000. "Teaching People and Their Pets." *Animal Sheltering* 23 (March–April):7–17.

- Lloyd A. Selby, DVM, dr PhD John D. Rhoades, DVM, PhD John E. Hewett, PhD James A. Irvin, PhD. 1979 A Survey of Attitudes Toward Responsible Pet Ownership
- Loseke. 2001. "Lived Realities and Formula Stories of 'Battered Women.'" Pp. 107–26 in *Institutional Selves: Troubled Identities in a Postmodern World*, edited by J. Gubrium and J. Holstein. New York: Oxford University Press.
- M.D Salman. 1998. Human and animal factors related to the Relinquishment of dogs and cats in 12 selected animal shelters in the United States
- Manning, A. M., & Rowan, A. N. 1992. Companion animal demographics and sterilization status: Results from a survey in four Massachusetts towns. *Anthrozoos*, 5, 192-201.
- McHugh, Jan. 1999. "In Adopters We Trust." American Humane Association Leadership Forum. Denver, CO: American Humane Association.
- New, C. J., Salman, M. D., King, M., Scarlett, J. M., Kass, P. H., & Hutchison, J. M. (2000). Characteristics of shelter-relinquished animals and their owners compared with animals and their owners in U.S. pet-owning households. *Journal of Applied Animal Welfare Science*, 3 (3), 179-201.
- Nowell, I. (1978). *The dog crisis*. New York: St. Martin's Press
- Scarlett, Janet M., Mo D. Salman, John G. New, Jr., and Philip H. Kass. 1999. "Reasons for Relinquishment of Companion Animals in U.S. Animal Shelters: Selected Health and Personal Issues." *Journal of Applied Animal Welfare Science* 2:41–57.
- Sturla, K. (1993). Role of breeding regulation laws in solving the dog and cat overpopulation problem. *Journal of the American Veterinary Medical Association*, 202, 928-932.
- Tasker 2007. *Stray Animal Control Practices (Europe)* Welch, S., & Thompson, K. (1980). The impact of federal incentives on state policy Sanders, Clinton R. 1994. "Annoying Owners: Routine Interactions with Problematic Clients in a General Veterinary Practice." *Qualitative Sociology* 17:159–70.
- Sanders, Clinton. 1999. *Understanding Dogs: Living and Working with Canine Companions*. Philadelphia: Temple University Press.
- Patronek, Gary J., Lawrence T. Glickman, Alan M. Beck, George P. McCabe, and Carol Ecker. 1996a. "Risk Factors for Relinquishment of Cats to an Animal Shelter." *Journal of the American Veterinary Medical Association* 209:582–8.
- Patronek, Gary J., Lawrence T. Glickman, Alan M. Beck, George P. McCabe, and Carol Ecker. 1996b. "Risk Factors for Relinquishment of Dogs to an Animal Shelter." *Journal of the American Veterinary Medical Association* 209:572–81.
- Salman, M. D., John C. New, Jr., Janet M. Scarlett, Philip H. Kass, Rebecca Ruch-Gallie, and Suzanne Hetts. 1998. "Human and Animal Factors Related to the Relinquishment of Dogs and Cats in 12 Selected Animal Shelters in the United States." *Journal of Applied Animal Welfare Science* 1:207–26.

Salman, Mo D., Jennifer Hutchinson, Rebecca Ruch-Gallie, Lori Kogan, John C. New, Jr., Philip H. Kass, and Janet M. Scarlett. 2000. "Behavioural Reasons for Relinquishment of Dogs and Cats to 12 Shelters." *Journal of Applied Animal Welfare Science* 3:93–106.

Shore, Elsie R. and Kathrine Girrens. 2001. "Characteristics of Animals Entering an Animal Control or Humane Society Shelter in a Midwestern City." *Journal of Applied Animal Welfare Science* 4:105–15.

Shi-Miin Liu and Hsiao-Chi Chen (2014) Solving Stray-Animal Problems by Economics Policies

Voslářval E.; Passantinoll A. 2012. Stray dog and cat laws and enforcement in Czech Republic and in Italy. *Annali dell'Istituto Superiore di Sanita*

[http://www.scielosp.org/scielo.php?pid=S0021-25712012000100016&script=sci\\_arttext](http://www.scielosp.org/scielo.php?pid=S0021-25712012000100016&script=sci_arttext)