Humane dog management

Better lives for dogs and communities
# Contents

1. **About World Animal Protection**  
   
2. **Introduction**  
   
3. **Dogs in communities**  
   3.1 The benefits and the problems  
   3.2 Diagram 1 - Causes and effects associated with dog population concerns  
   3.3 Diagram 2 - Solutions and benefits associated with dog management programmes  
   
4. **Dog culls are not the answer**  
   
5. **Specifically-tailored management programmes are the answer**  
   
6. **Developing a stakeholder committee**  
   
7. **About One Health and its role in improving dog welfare**  
   
8. **Designing a One Health programme**  
   8.1 Understanding the concerns associated with free-roaming dogs  
   8.2 Assessing the problem  
   8.3 Components of an effective programme  
      8.3.1 Education  
      8.3.2 Primary dog healthcare  
         8.3.2.1 Reproduction control  
         8.3.2.2 Vaccination and parasite treatment  
      8.3.3 Identification and registration  
      8.3.4 Legislation  
      8.3.5 Holding facilities and rehoming centres  
      8.3.6 Controlling access to resources  
      8.3.7 Euthanasia  
   
9. **Implementing the programme**  
   9.1 What is a pilot study?  
   
10. **Monitoring and evaluation of the programme**  
   
11. **The economics of dog management programmes**  
   
12. **How can we help?**  
   
13. **References**
“The greatness of a nation and its moral progress can be judged by the way its animals are treated.”

Mahatma Gandhi
Acknowledgement

Our gratitude goes to those who provided valuable insights and support for the production of this important piece of work. It will provide guidance to improve the lives of dogs globally.

We would also like to acknowledge the crucial role of all global experts involved in creating this document including Dr. Francois-Xavier Meslin and Dr. Tariku Jibat Beyene.

A final thank you to World Animal Protection supporters for their continuous and tireless commitment and generosity to our work.
1. About World Animal Protection
1. About World Animal Protection

Here at World Animal Protection, we have been moving the world to end cruelty to animals for more than 50 years. And managing issues related to free-roaming dogs in diverse communities around the world has always been one of our areas of expertise.

We work with governments and international bodies including the World Health Organisation (WHO), the World Organisation for Animal Health (OIE) and the Food and Agriculture Organisation of the United Nations (FAO). NGOs and local communities are also key partners in our mission to ensure dog populations are managed humanely.

Our focus is on the adoption and implementation of a ‘One Health’ approach to dog-related concerns and problems. This is collaboration between animal health, human health and environmental sectors to come up with viable and sustainable solutions.

Through our guidance and technical support to governments and our partnership facilitation we are building a world where people respect and value dogs, and act compassionately towards them to create a harmonious coexistence.


⇒ “World Animal Protection has assisted us immensely in improving the welfare of our animals by raising public responsibility in improving animal wellbeing and spearheading campaigns to control rabies.”
  Dr Kassim
  Principal Secretary
  Government of Zanzibar

⇒ “In the past, local people would not even have considered that poisoning dogs was wrong, and would have done nothing to stop it. Now, thanks to our work with World Animal Protection, they know better and have a greater respect for animal sentience – cruelty is no longer accepted as a norm.”
  Mauricio Santafe
  Veterinarian
  Paraiso de Mascota
  Cali, Colombia.

⇒ “World Animal Protection has been providing instrumental support in rabies elimination program of Bangladesh and supplementing the movement to prevent dog killing by municipalities in Bangladesh. It is not only the technical support but it is the involvement of one international organisation that matters very much. Continued support of World Animal Protection for rabies elimination in countries of South Asia can stop dog killing.”
  Professor Dr Be-Nazir Ahmed
  Line director for communicable disease control
  Ministry of Health and Family Welfare
  Government of Bangladesh
2. Introduction
There are an estimated 700 million dogs globally. In many communities around the world dogs are generally free-roaming and there is increasing evidence that most are owned. Owned free-roaming dogs usually live closely with people and are generally well cared for by the householders to whom they belong. Estimates of unowned free-roaming dogs in rural and urban settings are generally low (≤10%) but upper confidence limits of 37% have been reported.

In canine epidemiological and ecological models, it is often assumed that unowned dogs are usually in such an adequate state of health that their population is maintained at a constant level. But so far only one population study has reported the health status of the dogs involved. This study found that almost all of the unowned dogs were emaciated and in very poor health. These dogs were most likely owned dogs that had been dumped or abandoned and were subsequently unable to find sufficient edible refuse to maintain adequate health.

Dogs are often well tolerated by local communities. However, conflicts between dogs and humans may arise which can pressurise governments to remove the dogs. Consequently governments may adopt inhumane culling methods. These methods such as poisoning and electrocution not only cause extreme stress and death to the animals, they also severely distress people who witness the culls on their streets.

For more than 30 years, we have been helping governments manage dog populations humanely. Where there are conflicts surrounding free-roaming dog issues, we show how effective, ethical and sustainable interventions can solve the problems creating a harmonious co-existence between dogs and people. Our approach and methods are outlined in this report.
3. Dogs in communities — the benefits and the problems
3. Dogs in communities

3.1 The benefits and the problems

Dogs often live near people and provide benefits including companionship, security and assistance. Some working dogs are even trained to detect diseases in humans and protect livestock. There is also research evidence of the positive effects dogs have on human health and well-being.

Despite these benefits, dogs can cause concerns in communities especially when they are free roaming. These concerns can include zoonotic disease transmission, dog bites and road traffic accidents particularly in countries with limited social and economic development.

Occasionally free-roaming dogs are also present in areas of civil unrest or armed conflict where people have been forced to flee their homes and leave their dogs behind. In such circumstances and areas free-roaming dogs may need to be managed in a way that allows them to live with people harmoniously.

For an overview of the causes and effects of free-roaming dog populations as well as the World Animal Protection solution and benefits see diagrams 1 and 2.
3.2 Diagram 1: Causes and effects associated with dog population concerns
3.3 Diagram 2: Solutions and benefits associated with dog management programmes
4. Dog culls are not the answer
4. Dog culls are not the answer

To quickly and cheaply eliminate free-roaming dog-related concerns that include disease, environmental faecal contamination and behavioural concerns, governments have resorted to culling. These culls often use inhumane methods that cause considerable animal suffering. As most free-roaming dogs are owned, owners expressing the importance of their welfare, culling methods are often not accepted by local citizens. From this we can conclude that community involvement in dog management programmes becomes critical for success.

Research also shows that culling operations are expensive and ineffective. While dog population size and density may drop immediately after a cull, numbers soon rise afterwards. The immediate reduction in the numbers of dogs following a cull is usually transient. Owners replace their free-roaming dogs lost during a cull with new dogs that will again be allowed to roam.

It can also have a negative effect on rabies vaccination coverage where the indiscriminate killing that occurs usually includes owned, healthy and vaccinated dogs. As owners replace their dogs with new, unvaccinated puppies, zoonotic disease transmission increases as herd immunity decreases.

Case study
Creating a successful alternative to culling

Colombo, Sri Lanka 2007–2010

World Animal Protection (then WSPA) initiated an agreement with the Colombo Municipal Council (CMC) and the Blue Paw Trust (BPT) in 2007. Their aim was to establish and run a humane rabies and dog management project in Colombo. The project’s focus involved controlling the spread of canine rabies while managing the roaming dog population size and improving dog welfare in the city. The objectives were achieved by:

- mass vaccination of dogs — both owned and unowned
- sterilisation of dogs with a focus on females
- education in bite prevention and rabies awareness
- development of dog managed zones
- training of Colombo City Dog Pound staff.

The humane project led to a reduction in dog rabies cases from an average of 43 cases per year (2001–2005) down to just two cases in the first six months of 2011. Questionnaire surveys of local communities revealed a reduction in dog bites from 9,632 bites per year in the city down to 7,540 in 2010, a reduction of more than 20%. An improvement in dog welfare was observed based on body condition scores and the absence of skin disease. An immediate change in welfare was also seen as dogs were no longer culled by inhumane methods.

*Herd immunity — immunity that occurs when a significant proportion of a population (‘herd’) is vaccinated and provides a measure of protection to those that haven’t been vaccinated.
5. Specifically-tailored management programmes are the answer
Multi-faceted dog management programmes, designed to address community concerns regarding free-roaming dogs offer an ethical and effective alternative to culling. These programmes are generally an ongoing process and require long-term commitment. This is because if the programme ceases there may be a recurrence of issues generated by free-roaming dogs. Consequently, where free-roaming dogs are generating problems, any programme intended to address the situation must begin with an assessment of the source of free-roaming dogs (owned or unowned). It must also assess which stakeholders are concerned about the free-roaming dogs and why. These assessments will provide baseline data crucial for each step of the programme including monitoring and evaluation.
6. Developing a stakeholder committee
A stakeholder in a dog management programme is anyone who can affect or is affected by dog-related issues. When developing the programme it is important to identify these stakeholders and for the authorities to establish an advisory stakeholder committee. This committee should, with assistance from external experts, analyse and quantify the problem. It should also identify the causes, obtain public opinion on dogs and propose the most effective long-term and short-term approaches to use.

Ideally the responsible government authority should bring the stakeholders together for consultation.

The following table shows the stakeholders to be considered for involvement in a dog management programme.

| Government services | • Official veterinary services  
|                     | • Official medical services  
|                     | • Official waste / environment management services  
| International bodies – eg | • WHO  
|                     | • FAO  
|                     | • OIE  
| NGO community | • Animal sheltering, fostering and rehoming community  
| Local community | • Local community leaders / representatives  
| Academic community with relevant experience |  
| Local media |  
| Private veterinary and medical communities |  

Dog management is a multifactorial issue. Because it requires collaboration between agencies working for animals, people and the environment, it fits well under the One Health umbrella. The relevant stakeholders should be involved in the development of comprehensive and sustainable management strategies.

These strategies should take country and area-specific issues into account and provide a clear, ongoing approach to monitoring and evaluation of outcomes.

It is also important to acknowledge the need for collaboration between different departments within the government. The table below gives examples of those whose involvement may be required.

| Government | • Local government agencies  
|           | • Legislators  
| Ministry of agriculture | • Veterinary authorities  
|                     | • Animal Health department  
| Ministry of environment | • Sanitation department  
| Ministry of education |  
| Ministry of health |  
| Ministry of tourism |  

6. Developing a stakeholder committee
7. About One Health and its role in improving dog welfare
Free-roaming dogs can cause concerns not only for animals, but also for people and the environment. To address these issues successfully, collaboration between animal health, human health and environmental sectors is imperative. This collaboration is known as the One Health concept.26
8. Designing a One Health programme
Concerns associated with free-roaming dogs vary among different societies, communities and geographical regions. Consequently, any programme must be tailored towards the specific location in question.

It must be based upon the characteristics of the local dog population, the attitudes, behaviours, and religious beliefs that the people in that community have towards dogs. It should also address specific issues identified by affected stakeholders and the overall community perception of those issues.\textsuperscript{12, 23}

8. How to design a One Health programme to manage free-roaming dogs

- Monitoring and Evaluation
- Implementing the programme
- Planning the intervention
- Assessing the problem
- Understanding the problem

Assessment of the local situation
Identification of underlying causes
Prioritisation and resource allocation
Identification of approaches
8.1 Understanding the concerns associated with free-roaming dogs
The first step in achieving a successful and sustainable programme is clearly stating the specific problem and identifying the affected stakeholders. The factors that precipitate these issues need to be assessed and understood.

Some unsuccessful attempts at dog management programmes have been known to focus on the ‘symptoms’ of the dog population. One symptom could be the visible issues of too many dogs on the streets. This can result in culling, sterilisation or impoundment leaving the underlying causes unaddressed. For example, owners may allow their dogs to free-roam because of cultural or local attitudes. They also may not be able to afford fencing or a welfare-friendly way of confining their dog.

8.2 Assessing the problem
A thorough assessment of the specific concerns related to free-roaming dogs and the reasons behind them provides baseline data crucial for all programme stages; this includes monitoring and evaluation. Data may include numbers for dog bites or rabies case figures. The fraction of the community allowing their dogs to roam or tolerating free-roaming dogs, the fraction of abandoned dogs and those without identifiable owners etc can also be included.

Three main reasons why we need to survey the dog population:

To assess the NEED for intervention –
Different areas within a city or urban area need to be compared. This will determine where intervention should be prioritised. The need should be assessed and based on identified/main concerns as well as other factors, such as frequency of complaints about dogs or welfare concerns.

To PLAN an intervention –
This involves the evaluation of dogs in an area, discussion with stakeholders and concerned parties to identify factors associated with the need for intervention. This will ensure that resources can be allocated appropriately and targets identified to evaluate progress.

To EVALUATE an intervention –
Surveys can be conducted once the intervention is underway. These should detect changes/issues of concern in dog numbers/health and other factors, including attitudes towards dogs and bite incidences. Results will show the effectiveness of the programme.

Examples of objectives of a dog management programme (modified from the OIE)

1. Improve the health and welfare of dog populations.
2. Reduce the number of free-roaming dogs to an acceptable level.
3. Promote responsible dog ownership.
4. Reduce the risk of zoonotic diseases.
5. Prevent harm to the environment and to other animals.
6. Prevent illegal trade and trafficking.

Once the data is revealed, work can begin on prioritisation and resource allocation and a set of objectives can be decided upon.
### 8.3 Components of an effective programme

A range of components (listed below) should be carefully considered for a successful dog management programme. The components to include depend on the specific issue or issues identified as needing to be addressed by affected stakeholders. Implementation of components may need to be prioritised according to the availability of resources (financial, human, technical etc). Components may evolve over time to keep in step with the stage of resolution of identified concerns.

Each component is explained in more detail below, with practical examples of how they may contribute to a dog management programme. The components and benefits of each component are based on the available literature and World Animal Protection’s experience.

However, more data are needed on the efficacy of each component (and in combination) to address issues related to free-roaming dogs. As these data come to light, our recommendations for the management of free-roaming dogs may evolve.

Once objectives have been assigned for each of the components deemed suitable/necessary for the programme and resources allocated, implementation can begin. It should be conducted in stages, initially with a closely-monitored pilot programme so that any adjustments to the programme can be made before the full programme is launched.

Communities and stakeholders should be engaged and consulted throughout the programme. They should also be involved in making recommendations to improve the intervention. Problems and failures should be viewed as opportunities to improve the programme.
8.3.1 Education

Education is a key component in dog management programmes. Problems associated with free-roaming dogs are all influenced by human behaviour. Education can provide a means to improve knowledge, influence perception and change people’s attitudes towards dogs where conflict exists. It can also bring about social and economic benefits as people learn about disease, dog bite prevention and dog behaviour.

<table>
<thead>
<tr>
<th>Why educate?</th>
<th>The benefits of education</th>
</tr>
</thead>
<tbody>
<tr>
<td>To build awareness of animal welfare and related issues.</td>
<td>The improved care and welfare of dogs.</td>
</tr>
<tr>
<td>To encourage responsibility towards dogs among dog owners and non-dog owners alike.</td>
<td>A better relationship between dogs and people.</td>
</tr>
<tr>
<td>To understand the concerns associated with dogs in the community.</td>
<td>Widespread acceptance of the dog management programme.</td>
</tr>
<tr>
<td>To understand the advantages of having dogs in a community.</td>
<td>The social and economic benefits that come from sustainable objectives.</td>
</tr>
<tr>
<td>To understand dog behaviour.</td>
<td>People can enjoy safer interactions with dogs.</td>
</tr>
<tr>
<td></td>
<td>People are more aware of the factors contributing to dog bites and zoonotic diseases associated with dogs.</td>
</tr>
</tbody>
</table>

8.3.2 Primary dog healthcare

8.3.2.1. Reproduction control

Reproduction control has long been regarded as a means to reduce the dog population size. Studies have, however, shown varied results in this regard with some study areas maintaining population size whereas a reduction was seen in others.

Increasing evidence now suggests that local dog population size is regulated by community and/or owner behaviour. Consequently, changing the attitudes to ownership may be more likely to affect population size.

Implementation of mass dog sterilisation should therefore take account of location-specific dog population criteria and local attitudes towards dogs.

Sterilisation may, however, be used on a case-by-case basis to deal with problematic behaviour. This could be aggression during the mating season or the propensity for specific dogs to roam. Although, sterilisation does not always curb these behaviours.

It may also address welfare issues, such as the dumping and killing of unwanted puppies.

There are different methods for controlling reproduction, but surgical sterilisation of female and male dogs is currently the most reliable option. Surgical sterilisations should always be carried out by a qualified veterinarian. Good aseptic techniques and pain management throughout and after the procedure are requirements to ensure animal welfare.

<table>
<thead>
<tr>
<th>Why control the reproduction of dogs?</th>
<th>The benefits of reproduction control among dogs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dogs will be less likely to go looking for a mate.</td>
<td>Dogs are less inclined to roam during breeding season.</td>
</tr>
<tr>
<td>To reduce or eliminate dog culling.</td>
<td>Persuades local authorities not to cull and gives local authorities the ability to opt out of the unpopular option of culling.</td>
</tr>
<tr>
<td>Sterilised animals are unable to reproduce.</td>
<td>Prevention of unwanted puppies.</td>
</tr>
<tr>
<td>To reduce the number of dog bite-related injuries and diseases.</td>
<td>There may be a reduction in aggression and territorial behaviour.</td>
</tr>
</tbody>
</table>
8.3.2.2. Vaccination and parasite control

Often, programmes for the management of free-roaming dogs are linked to public health concerns in relation to dog bites and the spread of zoonotic diseases. The seriousness and fear of these concerns can precipitate culls. Preventative measures to combat these concerns, such as vaccinating dogs against rabies, will abolish fears and render culling unnecessary and counter-productive.

Veterinarians should always be involved with these programmes to assist in administering and advising owners on the benefits of preventative treatments, such as vaccinations and anti-parasite treatments.

<table>
<thead>
<tr>
<th>Why vaccinate and use parasite control?</th>
<th>The benefits of vaccinations and parasite control</th>
</tr>
</thead>
<tbody>
<tr>
<td>To reduce the prevalence of zoonotic diseases such as rabies.</td>
<td>Improved public and animal health through the reduction or elimination of zoonoses.</td>
</tr>
<tr>
<td>To reap economic benefits.</td>
<td>It is a more cost-effective method of reducing diseases than culling.</td>
</tr>
</tbody>
</table>

8.3.3 Identification and registration

Identification and registration are essential tools when it comes to promoting responsible dog ownership. There are many different identification methods available. It is important to select the method that suits the local situation with regard to practicality and cost.

<table>
<thead>
<tr>
<th>Why use identification and registration?</th>
<th>The benefits of identification and registration</th>
</tr>
</thead>
<tbody>
<tr>
<td>To trace dogs back to their owners and promote responsibility towards their dog/s.</td>
<td>Owners can be reunited with lost dogs because the identification connects them with their owners.</td>
</tr>
<tr>
<td>As a tool to help enforce legislation.</td>
<td>Irresponsible owners can be prosecuted - e.g., for neglect, for using dogs for fighting or for abandonment.</td>
</tr>
<tr>
<td>To control and survey the dog population.</td>
<td>When mandatory identification and registration is in place, unidentified dogs can be taken care of. New homes can be sought if an owner can’t be traced.</td>
</tr>
<tr>
<td></td>
<td>Could provide a means for owned versus unowned dog population.</td>
</tr>
</tbody>
</table>
### 8.3.4 Legislation

Legislation – and its enforcement – is important for the delivery and long-term sustainability of any management programme. Legislation gives an agency authority to enforce measures for the humane management of free-roaming dogs.

Combined with education programmes, legislation can promote animal-friendly solutions and responsible dog ownership.

<table>
<thead>
<tr>
<th>Why legislate?</th>
<th>The benefits of legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>To ensure dog management programmes are humane and carried out.</td>
<td>Improved animal and human welfare and/or health.</td>
</tr>
<tr>
<td>To establish requirements that the public must satisfy when importing and exporting dogs. This is notably to prevent the introduction of zoonotic diseases into a country (see UK Pet Travel Scheme as an example).</td>
<td>Avoidance of the introduction of animal diseases and zoonoses and reducing the number of disease introductions and outbreaks in a country.</td>
</tr>
<tr>
<td>To establish a regulatory framework for dog breeding and ownership. For example making abandonment illegal.</td>
<td>Improved accountability regarding dog ownership and related commercial activities.</td>
</tr>
<tr>
<td>Establish requirements for food waste disposal and the disposal of animal waste.</td>
<td>Cleaner environment, reduced public nuisance.</td>
</tr>
<tr>
<td>Establish requirements for the notification and control of specified diseases, such as rabies and leishmaniasis.</td>
<td>Improved animal health and public health.</td>
</tr>
<tr>
<td>Establish penalties for those who break the rules – for example treating animals inhumanely.</td>
<td>Limits the availability for free-roaming dogs to scavenge.</td>
</tr>
<tr>
<td>Establish requirements for registration/licensing and individual identification of dogs.</td>
<td>Improved public health and animal health. Compliance with international (such as OIE) obligations regarding transparency in disease notification.</td>
</tr>
<tr>
<td>Can provide a means to educate the community on responsible dog ownership in conjunction with adoptions or neutering/vaccination clinics.</td>
<td>Better compliance with the rules, safer communities.</td>
</tr>
<tr>
<td>Before adoption, dogs may be sterilised, vaccinated, treated for parasites and identified and registered to their new owners.</td>
<td>Enable authorities and dog owners to trace lost dogs to their owners; enable prosecution of those who break the rules.</td>
</tr>
</tbody>
</table>

### 8.3.5 Holding facilities and rehoming centres

Although free-roaming dogs may be well tolerated in many communities around the world, temporary holding and rehoming facilities may be required to manage individual aggressive or problematic dogs. Veterinary involvement within these facilities should be a requirement as animals that are admitted may be suffering from disease, malnutrition or injury.

These facilities are often costly to run and they only provide a temporary solution. Animal welfare problems such as disease transmission may result from overcrowding or poor management. They cannot be used as the sole means for controlling the dog population, but they may provide a useful contribution under certain circumstances.

<table>
<thead>
<tr>
<th>Why use holding facilities and rehoming centres?</th>
<th>The benefits of using holding facilities and rehoming centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>To provide temporary holding and care for dogs when:</td>
<td>They are safe areas for animals to recover from illness and/or neglect.</td>
</tr>
<tr>
<td>• they are in crisis or distress</td>
<td>It makes rehoming/adoption of unwanted dogs or dogs without owners possible.</td>
</tr>
<tr>
<td>• dealing with problems of animal abuse or neglect when no other options are available</td>
<td>They can help lost dogs to be reunited with their owners.</td>
</tr>
<tr>
<td>• dealing with lost animals</td>
<td>They can be used (permanently or temporarily) as veterinary facilities for surgical sterilisation, vaccination, other prophylaxis such as anthelmintics.</td>
</tr>
<tr>
<td>• facility for the delivery of primary veterinary health care</td>
<td>Can provide a means to educate the community on responsible dog ownership in conjunction with adoptions or neutering/vaccination clinics.</td>
</tr>
<tr>
<td>• quarantine to observe disease symptoms (e.g., rabies) or surveillance of disease.</td>
<td>Before adoption, dogs may be sterilised, vaccinated, treated for parasites and identified and registered to their new owners.</td>
</tr>
</tbody>
</table>
### 8.3.6 Controlling access to resources

Dogs may be motivated to roam in areas where access to resources, such as food, is available. They may, therefore, congregate around refuse and garbage dumps. This could precipitate disease transmission and cause concern for the public where streets are not cleaned and people frequent.

Although there are very few published data regarding the nutritional content of refuse, one study reported that, while there was considerable refuse strewn throughout the study area, most of the refuse was inedible. This provided limited nutrition to the dogs that scavenged. Nonetheless, owned dogs were still sometimes observed scavenging opportunistically. Consequently, access to refuse should be restricted to reduce the possibility of dogs congregating around rubbish sites.

<table>
<thead>
<tr>
<th>Why control access to resources?</th>
<th>The benefits of controlling access to resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>To restrict dog roaming.</td>
<td>Fewer dogs on the streets.</td>
</tr>
<tr>
<td>To provide a cleaner and more hygienic environment.</td>
<td>Improved public health and animal health and welfare.</td>
</tr>
<tr>
<td>To prevent access to animal waste products from abattoirs.</td>
<td>There may be a reduction in parasitic infections with zoonotic potential, e.g., echinococcosis.</td>
</tr>
<tr>
<td>To prevent unnecessary gastrointestinal upset or blockage.</td>
<td>Unnecessary suffering avoided.</td>
</tr>
</tbody>
</table>

### 8.3.7 Euthanasia

In the event of incurable illness, injury or behavioural problems with no prospect of recovery, euthanasia may be necessary as part of a dog management programme. Euthanasia is the act of inducing death in a humane manner.

Understanding the principles of euthanasia as part of the programme is essential. It is meant to be applied only when no other options are available and as such, these guidelines will help to determine when ending a life is warranted and when it is not.

**Why use euthanasia?**
- To prevent the indiscriminate killing of dogs.
- To relieve animal suffering from incurable illnesses, injury, or behavioural problems or are likely to continue suffering into the future, or have little prospect of a life worth living in the future.
- To act on urgent cases of suffering, where euthanasia should be the required course of action. Anything that delays or prevents such a course of action should be avoided.
- To help vets and staff in holding facilities and rehoming centres make informed decisions with regards to an animal’s quality of life.
- To provide guidelines on a case-by-case basis as to when euthanasia is warranted and when it is not.

**The benefits of euthanasia**
- When suffering from incurable illnesses, injuries, or behavioural problems, animals can be relieved from their suffering in a humane and stress-free manner.
9. Implementing the programme
9. Implementing the programme

Successful implementation depends on the completion of an initial assessment, selection of the stakeholder committee, identification of the problem’s root causes and a carefully designed programme. After these stages have been thoroughly followed implementation will need to be conducted in stages. It should use closely monitored pilot areas so that any problems can be tackled before the full programme is launched.

The initial stages should not be rushed and key stakeholders will need to collaborate to improve progress in the early stages.

9.1 What is a pilot study?
Studies in pilot areas are mini versions of the full-scale programme. They allow the opportunity to test the implementation stage in advance. Pilot studies identify problems as well as successes and provide valuable information for the full-scale programme, but may not guarantee its success\(^\text{32}\).

Case study
Using pilot areas to implement a programme on a larger scale

World Animal Protection is supporting the Bangladesh government to deliver a National Rabies Action Plan and carry out countrywide mass dog vaccinations to protect dogs and people.

In 2011, a pilot study was set up in the southern beach resort of Cox’s Bazar. Two rounds of vaccinations were completed and more than 70% of the area’s dog population was vaccinated. Because of these vaccinations, education on dog bite prevention and continued efforts, the area has experienced a significant reduction in both dog and human rabies cases.

Following the success of this pilot programme, nationwide mass dog vaccinations will be implemented as part of the country’s National Rabies Elimination Strategy.
10. Monitoring and evaluation of the programme
10. Monitoring and evaluation of the programme

“Getting something wrong is not a crime. Failing to learn from past mistakes because you are not monitoring and evaluating, is.”

Shapiro. J. 2011

Monitoring and evaluation play an important role in the programme process. They allow a programme’s effectiveness to be assessed, issues to be identified and adjustments to be made accordingly. Monitoring and evaluation also allow information regarding successes and failures to be published and shared.

During the monitoring and evaluation process whole communities (including those who own dogs, those who do not, and community leaders) should be engaged and consulted. This consultation should be carried out alongside the consultation with other relevant stakeholders. Communities should also be involved in making recommendations to improve the intervention.

It’s important to remain open-minded and positive at the monitoring and evaluation stage. Problems and failures should be seen as opportunities to improve the programme, rather than cues to admit defeat\textsuperscript{23}.

10. Monitoring and evaluation of the programme

“Getting something wrong is not a crime. Failing to learn from past mistakes because you are not monitoring and evaluating, is.”

Shapiro. J. 2011

Monitoring and evaluation play an important role in the programme process. They allow a programme’s effectiveness to be assessed, issues to be identified and adjustments to be made accordingly. Monitoring and evaluation also allow information regarding successes and failures to be published and shared.

During the monitoring and evaluation process whole communities (including those who own dogs, those who do not, and community leaders) should be engaged and consulted. This consultation should be carried out alongside the consultation with other relevant stakeholders. Communities should also be involved in making recommendations to improve the intervention.

It’s important to remain open-minded and positive at the monitoring and evaluation stage. Problems and failures should be seen as opportunities to improve the programme, rather than cues to admit defeat\textsuperscript{23}.

10. Monitoring and evaluation of the programme

“Getting something wrong is not a crime. Failing to learn from past mistakes because you are not monitoring and evaluating, is.”

Shapiro. J. 2011

Monitoring and evaluation play an important role in the programme process. They allow a programme’s effectiveness to be assessed, issues to be identified and adjustments to be made accordingly. Monitoring and evaluation also allow information regarding successes and failures to be published and shared.

During the monitoring and evaluation process whole communities (including those who own dogs, those who do not, and community leaders) should be engaged and consulted. This consultation should be carried out alongside the consultation with other relevant stakeholders. Communities should also be involved in making recommendations to improve the intervention.

It’s important to remain open-minded and positive at the monitoring and evaluation stage. Problems and failures should be seen as opportunities to improve the programme, rather than cues to admit defeat\textsuperscript{23}.
11. What are the economics of dog management programmes?
The costs associated with dog management programmes can be significant and depend on the specific issues to be addressed. Costs can be particularly high if issues affect dogs on a population level, such as the necessity to vaccinate 70% of all dogs within a large geographical area but provide benefits in the long-run.

Conversely, where issues related to free-roaming dogs are localised, such as free-roaming dogs congregating around refuse, removing garbage from localised areas probably incurs limited costs.

To guarantee the most effective use of funds, interventions need to be designed with care. The sustainability and success of a programme depends upon the availability of resources (financial, human, technical etc) over a long period of time. Understanding the economics and benefits of dog management programmes is important.

Although there are costs associated with the running of a dog management programme, the costs associated with free-roaming dogs can also be substantial and are often ongoing. Costs can pertain to dog bite treatments, road traffic accidents, zoonotic disease post-exposure treatment and injury to livestock and pets. They can also relate to environmental contamination (faeces, urine and thrown around garbage).

In countries where tourism accounts for a significant portion of gross domestic product, free-roaming dogs can have an indirect impact on the economy. The sight of free-roaming dogs can create a perception of an uncaring society or of economic hardship. Dog attacks and rabies can have a further negative effect and deter tourists from returning.
We provide expert advice on implementing effective and sustainable dog management programmes. We have been working with governments, international bodies, NGOs and local communities for more than 30 years to help manage free-roaming dogs humanely and we can do the same for you.

Whether you need advice, further information or technical support, please contact the Animals in Communities team at animalsincommunities@worldanimalprotection.org or visit worldanimalprotection.org. Together, we can move the world to protect animals.
13. References


We are World Animal Protection.
We end the needless suffering of animals.
We influence decision makers to put animals on the global agenda.
We help the world see how important animals are to all of us.
We inspire people to change animals’ lives for the better.
We move the world to protect animals.
Controlling dogs’ access to resources

Dogs may roam in areas where they can find the resources – food, water and shelter – they need to survive. Both handouts and garbage may encourage them to roam.

People may unintentionally supply food to dogs from various sources. These sources might include hotel, restaurant, supermarket and household garbage bins, garbage dumps and abattoir waste areas. Sometimes free-roaming dogs are also deliberately fed by people out of kindness.

Dogs looking for food in residential areas will often tip over garbage bins to try and find it. This not only looks unsightly and causes public concern, but attracts other animals, like birds, rodents and insects. It can also lead to the spread of disease.

Certain wastes such as livestock offal from abattoirs can spread parasites, including tapeworms (echinococcosis) to people. This happens when dogs become infected with parasites through eating infected animal products, such as sheep intestines. Human contact with an infected dog’s faeces, or food contaminated with dog faeces, can then lead to infections in humans, which can be fatal.

Dogs can also be infected with human diseases when they eat or have contact with faecal matter, eg from diapers found in the garbage. They can also be infected through access to latrines and exposure to poor human sanitary measures (Daniel Stewart, personal communication, February 25, 2015).

There is very little published data regarding the nutritional content of refuse. One study, however, reported that, while there was considerable refuse strewn throughout the study area, most of it was inedible. Consequently, it only provided limited nutrition to roaming dogs.
Case study

Dog managed zones in Colombo, Sri Lanka

World Animal Protection (then WSPA) supported the Blue Paw Trust and the Colombo Municipal Council in Colombo, Sri Lanka during a five-year project (2007-2012) on humane dog management and rabies control. Through this programme, dog managed zones were introduced to provide a safe environment for both people and dogs.

A dog managed zone is an enclosed area such as a hospital or school. It contains a limited number of sterilised and vaccinated dogs to keep out roaming, unvaccinated dogs.

In the zone, the dogs are fed at a designated area at the same time every day. The area is kept clean of garbage and this further discouages roaming dogs from entering.

The staff and public are educated in dog bite prevention, rabies awareness and responsible dog ownership. They are also informed of their role in keeping the environment clean to provide a safe and nuisance-free location where dogs and people can live happily together.

Examples of how access to resources can be limited:

- Regular garbage removal – keeping streets clean.
- Animal-safe bins/fenced in garbage sites.
- Education on littering prevention and the responsibilities of dog ownership.
- Appropriate animal waste product disposal in abattoirs and meat/fish markets.
- Stopping people purposefully feeding dogs that do not belong to them.

Notes


For more information, please contact
animalsincommunities@worldanimalprotection.org

worldanimalprotection.org
Education – changing attitudes

Gentle touch: A vet teaches school children about dog welfare in Fiji.

“Animal welfare education promotes knowledge, understanding, skills, attitudes and values related to human involvement in the lives of animals.”
(World Animal Protection, 2014)¹

Successful dog education programmes always include guidance on how to interact responsibly with dogs. Safe interaction education to prevent bite injuries is especially relevant with those dogs that show signs of fear or aggression⁴.

Appropriate education about dog behaviour can also result in social and economic benefits. This is because there may be fewer opportunities for disease transmission and less strain on health services as people increasingly learn how and why to avoid getting bitten.

Educating people is key to successful humane dog management programmes. This is because problems associated with free-roaming dogs are all influenced by human behaviour.

Education provides the means to improve knowledge, influence perception and change people’s negative attitudes towards dogs. This benefits the management of free-roaming dogs in communities as well as the care and welfare of dogs², ³.
Guidelines for a responsible owner

As a dog owner, I need to:

- remember my dog/s is/are my responsibility
- ensure good welfare through providing appropriate shelter, nutritious food, clean water, adequate exercise, and companionship (with people and/or other dogs)
- take my dog/s to the vet when they are sick or injured and to get vaccinations and other treatments to prevent and treat disease
- identify (by means of microchip, collar or similar) and register my dog/s
- sterilise my dog/s
- allow my dog/s to run and play but supervise them and control them.

Educating dog owners

Because dogs are so reliant on people to meet their welfare needs it is important that dog owners understand how to provide them.

The Five Freedoms\(^5\) outlined below are helpful in bringing about this understanding.

- Freedom from hunger and thirst
- Freedom from discomfort
- Freedom from pain injury and disease
- Freedom to express normal behaviour
- Freedom from fear and distress.

Education on the responsibilities of dog ownership can be provided in a variety of ways including through community awareness campaigns, veterinary clinics, media activities, animal control officers, rehoming centres etc.

Educating communities

Community education about humane management programmes is vital to support the programme and its sustainability. Community education includes both public awareness campaigns and educating children through schools.

Public awareness campaigns aim to\(^6\):

- increase the understanding of why protecting and respecting dogs is important
- generate support for management programmes
- educate communities about upcoming programmes and reasons behind them
- inform dog owners and communities of their responsibilities to help care for and protect dogs, and about dog bite prevention.

Educating children through school programmes is vital. This is because\(^4\):

- school children often share messages learnt at school with their friends and families
- children are most likely group to be bitten by dogs
- young people are the next generation of decision makers.

Education about dogs can be delivered through various channels including animal welfare groups, veterinarians, schools, enforcement bodies and the media\(^3\).
Case study
Animal welfare education in Puebla, Mexico

World Animal Protection (then WSPA) worked with the Puebla State government and the local NGO Fundación Dejando Huella to teach values, including respect for the life of animals in schools. Through this agreement 27,000 school children, in one of Mexico’s most impoverished and violent areas, learned basic concepts in animal welfare in their classes. This led to a positive change in behaviour towards both animals and people.

Jerry’s story
Jerry was five years old when animal welfare classes started at his school. Before this, he didn’t like animals. They bothered and frightened him. He had also behaved aggressively towards animals and his fellow classmates.

Jerry’s aunt and former teacher both agreed that his behaviour changed after the school’s implementation of animal welfare lessons. He started treating his classmates differently and he formed a close bond with a puppy he called Chiquis Perris. Hugging her he said that he thought she loved him because “I give her affection”.

The project also included sessions with the Puebla Secretariat of Health. During these sessions families brought their dogs and cats to get a health check by a veterinarian and to be neutered.

They were also advised on how keeping animals healthy through preventative veterinary treatment (vaccinations and anti-parasite treatment), and by providing them with correct diet and care can positively affect family health.

Training for all

When developing humane management programmes, everyone involved must be trained to ensure the safety of staff and dogs.

Animal Control Officers (ACOs), for example, often get minimal training in animal handling. This leads to poor handling techniques and lack of respect for animal welfare. In turn, this can lead to communities developing negative perceptions of ACOs. They then become the source of public complaints and animosity.

Training should aim for ACOs to recognise the contribution they can make towards animal welfare and human health and to become champions for animal welfare in their community. This approach to animal welfare training should also be applied to other professionals including teachers.
Case study
Training dog handlers in Bangladesh

Before the implementation of Mass Dog Vaccinations (MDV) to combat rabies in Bangladesh, dogs were culled. Cruel, inhumane methods were used by dog catchers when rounding up dogs for culling.

These methods often caused stress to the dogs as well as to the dog catchers and passers-by. But with MDV, dog catchers were retrained to catch dogs for vaccination in a humane manner. They were taught to do this by hand or with nets, instead of with inhumane equipment.

And to increase the number of trained workers able to give vaccinations, livestock and poultry workers were trained too.

More than 60% of dogs in Bangladesh are now captured safely by hand, without equipment use, and there are more than 1,000 expert dog catchers in the country.

Through training dog handlers should be able to:
- recognise basic dog behaviour and translate different behaviours into appropriate catching methods to ensure safety to the dogs as well as themselves
- advise owners on dog handling and interaction, explain the need for MDV (in rabies endemic areas) and dog management programmes and why culling is ineffective
- be able to restrain different sized dogs appropriately
- safely catch dogs using different, humane methods.

See World Animal Protection’s ‘Dog Capture and Handling’ guide for more information.

Our training and education work
World Animal Protection supports animal welfare training for professionals and educators in many ways.

We have trained teachers to deliver best practice animal welfare education in many countries and have developed materials - including 5 Tips to Prevent Dog Bites - for use in schools.

We have also developed advanced animal welfare materials and training packages aimed at veterinary lecturers, students and other animal welfare professionals.

Notes

Case study
Training dog handlers in Bangladesh

Before the implementation of Mass Dog Vaccinations (MDV) to combat rabies in Bangladesh, dogs were culled. Cruel, inhumane methods were used by dog catchers when rounding up dogs for culling.

These methods often caused stress to the dogs as well as to the dog catchers and passers-by. But with MDV, dog catchers were retrained to catch dogs for vaccination in a humane manner. They were taught to do this by hand or with nets, instead of with inhumane equipment.

And to increase the number of trained workers able to give vaccinations, livestock and poultry workers were trained too.

More than 60% of dogs in Bangladesh are now captured safely by hand, without equipment use, and there are more than 1,000 expert dog catchers in the country.

Through training dog handlers should be able to:
- recognise basic dog behaviour and translate different behaviours into appropriate catching methods to ensure safety to the dogs as well as themselves
- advise owners on dog handling and interaction, explain the need for MDV (in rabies endemic areas) and dog management programmes and why culling is ineffective
- be able to restrain different sized dogs appropriately
- safely catch dogs using different, humane methods.

See World Animal Protection’s ‘Dog Capture and Handling’ guide for more information.

Our training and education work
World Animal Protection supports animal welfare training for professionals and educators in many ways.

We have trained teachers to deliver best practice animal welfare education in many countries and have developed materials - including 5 Tips to Prevent Dog Bites - for use in schools.

We have also developed advanced animal welfare materials and training packages aimed at veterinary lecturers, students and other animal welfare professionals.

Notes
Holding facilities and rehoming centres

Holding facilities and rehoming centres, also sometimes known as shelters, can perform many functions. They may reunite lost dogs with their owners, carry out a rehoming role, house abused and neglected dogs and even act as quarantine units.

But these facilities alone can never solve the issues associated with free-roaming dogs. They may even be counterproductive by providing an easy way for dog owners to dispose of their unwanted dogs rather than taking responsibility for them.

Potential for serious welfare implications

Holding and rehoming centres only treat the symptoms of abandonment rather than the causes. Overcrowding, and lack of funds and experience in running some of these facilities is a great concern and can lead to severe welfare implications for the animals.

Shelter facilities for dogs can be run as public facilities by a municipality or council, or privately through NGOs. The objectives for public and private facilities may differ.

Public ones may be set up with the intent to solve a public health problem while private ones may focus more on trying to solve animal welfare concerns. However, the end result of both can be the same - overcrowding, poor animal welfare and abandonment of dogs.

Strict policies have to be put in place to ensure animal welfare needs are met, including cleaning/disinfection, rehoming, intake and staff requirements.
To control and limit the number of dogs in holding facilities and rehoming centres, dog adoptions should be encouraged. In many developing countries, the interest and acceptability of dog adoption may be a new concept and will need to be encouraged.

Before dogs are put up for adoption, they should be sterilised, vaccinated and treated for parasites. Potential new owners should be informed of dog ownership requirements and responsibilities.

Considering best use of resources

Deciding to build a holding or rehoming facility might not be the best use of resources or the best way to help animals. They are very costly and time consuming to run and alternative routes should be sought whenever possible. They are only a temporary measure and should always be used with the other components in the dog management cycle.

Welfare needs and the ‘Five Freedoms’

All animals have welfare needs essential to their survival. Those kept as pets or in captivity are totally reliant on people. Consequently, it’s important for anyone looking after animals to be aware of their welfare requirements and to look after them properly.

The welfare needs of animals are expressed through the ‘Five Freedoms’. These freedoms can be used as a benchmark for the development of welfare standards for animals in shelters.

**Freedom from hunger and thirst**
Access to clean water should be available at all times and adequate food should be provided on a daily basis.

**Freedom from pain, injury and disease**
Veterinary care should be provided whenever an animal is sick or injured.

**Freedom from discomfort**
The animal should have access to shelter and somewhere comfortable to rest.

**Freedom to express normal behaviour**
Animals need enough space, proper facilities, and company of animals of the same species.

**Freedom from fear and distress**
Living conditions and treatment should not cause mental suffering.

Case study

The role rehoming centres can play in implementing humane management strategies – Save the Dogs, Romania

World Animal Protection is supporting the NGO Save the Dogs in Romania to implement humane management strategies. Save the Dogs has three rehoming centres that look after abandoned, ill and injured dogs.

Neutering, identification and registration of dogs is a legal requirement for crossbreed dogs in Romania. Save the Dogs works closely with the local authorities in the area to help inform people about this law. We supported Save the Dogs in 2014 to provide these services to poor areas with limited veterinary care.

To promote responsible dog ownership in the country we are supporting a Save the Dogs schools education programme in 2015. This programme includes how to care for dogs, how to interact safely with them and prevent dog bites.

We are also working with the ministry of education and a number of NGOs in the country to develop a national education programme for responsible dog ownership.

Notes

Standing proud: An owned dog in Bali, Indonesia

Identifying and registering dogs

The most effective way of connecting an owner with their dog and to promote responsible dog ownership is through identification and registration.

There are a number of different methods of identification. These include temporary/semi-permanent methods (e.g. collar and tag) and permanent (e.g. microchip).

These methods can be used either alone or in combination, but a system of permanent identification linked to a central registration database is of most value. It is, however, always important to select the method that suits the local situation in terms of practicality and cost.

Identification is different from ‘marking’ dogs. Marking is used to show that an animal belongs to a certain population rather than to an owner. For example, an animal may have been spray painted if it was vaccinated during a vaccination drive.

Identifying and registering – the benefits

Identification and registration:

- encourage owners to feel responsible because animals are specifically identified as their own
- help reunite lost animals with their owners
- lay strong foundations for enforcing legislation, such as abandonment and welfare legislation, dog breeding and trading, dog fighting, etc.
Linking registration and fees

Registration may be linked to a fee. Fees can provide an income for humane dog management activities. They can also be used as an incentive for owners. For example, people who behave responsibly towards their pets by having them registered and identified may be eligible for various discounts such as reductions on neutering costs or on anti-parasite treatments¹.

But the implementation of registration fees has to be carefully considered. They may deter people from registering their animals if the fees are too high or if the area in question is very poor¹.

Implementing dog registration

Countries with successful humane management strategies usually have comprehensive identification, registration, and traceability systems in place.

How simply a dog registration system can be implemented in a country depends very much on a number of factors. These can include dog management systems already in place, numbers and locations of existing dog populations, attitudes of national and local government and of local people.

It is also important to assess if registration itself will lead to a successful management programme, or if the country’s dog population needs regulating to a certain level first.

Local culture and attitudes towards dog ownership will influence the success of a registration system. Community dogs are acceptable in some cultures. This means it is important to consider whether or not to include these dogs in the registration process and who would have to take responsibility for ownership¹.

Examples of identification methods³

**Microchip**

Permanent method

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent identification that lasts a lifetime.</td>
<td>Technology may be expensive to purchase.</td>
</tr>
<tr>
<td>Cannot be tampered with or removed, without surgical intervention.</td>
<td>Unavailability of scanners may leave microchipped animals undetected.</td>
</tr>
<tr>
<td>Will not cause discomfort if implanted correctly or alter behaviour or appearance.</td>
<td>Microchipping registry requires significant infrastructure, computerised database and 24hr staffed call centre or web access.</td>
</tr>
<tr>
<td>Minimal handling and restraint needed for scanning.</td>
<td>Not a visible method of ID unless accompanied by visible indicator.</td>
</tr>
<tr>
<td>Implantation is quick with minimal discomfort.</td>
<td>Not all scanners may be compatible with all microchips. Microchips can differ between countries and cannot be read by available scanners making travelling with animals a problem. Many scanners are now universal however.</td>
</tr>
<tr>
<td>Safe with rare complications reported.</td>
<td>Possibility for the microchip to migrate in loose-skinned animals.</td>
</tr>
<tr>
<td>Only method with a guaranteed unique, unalterable code.</td>
<td>Microchip failure possible or ‘scrambling’ if two microchips are implanted.</td>
</tr>
<tr>
<td>Personal information not visible to public.</td>
<td>Owner information dependent on owner updating details in case of relocation, change of owner etc.</td>
</tr>
<tr>
<td>Provides traceability.</td>
<td></td>
</tr>
</tbody>
</table>

Examples of identification methods³

Advantages

Permanent identification that lasts a lifetime.

Cannot be tampered with or removed, without surgical intervention.

Will not cause discomfort if implanted correctly or alter behaviour or appearance.

Minimal handling and restraint needed for scanning.

Implantation is quick with minimal discomfort.

Safe with rare complications reported.

Only method with a guaranteed unique, unalterable code.

Personal information not visible to public.

Provides traceability.

Disadvantages

Technology may be expensive to purchase.

Unavailability of scanners may leave microchipped animals undetected.

Microchipping registry requires significant infrastructure, computerised database and 24hr staffed call centre or web access.

Not a visible method of ID unless accompanied by visible indicator.

Not all scanners may be compatible with all microchips. Microchips can differ between countries and cannot be read by available scanners making travelling with animals a problem. Many scanners are now universal however.

Possibility for the microchip to migrate in loose-skinned animals.

Microchip failure possible or ‘scrambling’ if two microchips are implanted.

Owner information dependent on owner updating details in case of relocation, change of owner etc.
Red collar: A vaccinated dog in Flores, Indonesia.

<table>
<thead>
<tr>
<th>Tattoo</th>
<th>Collars (+/- tags)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Permanent method</strong></td>
<td><strong>Semi-permanent to temporary methods</strong></td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td><strong>Advantages</strong></td>
</tr>
<tr>
<td>Secure and permanent method of ID.</td>
<td>Visible identification.</td>
</tr>
<tr>
<td>Can deter theft of owned animals.</td>
<td>Inexpensive.</td>
</tr>
<tr>
<td>Unique alphanumeric code for each individual animal.</td>
<td>Readily available.</td>
</tr>
<tr>
<td>Owner details do not have to be on public display.</td>
<td>Quick and easy to administer (if the dog can be handled).</td>
</tr>
<tr>
<td>Low running costs.</td>
<td>Variable in type and colour.</td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>Instant recognition of dog/owner detail.</td>
</tr>
<tr>
<td>Handling and restraint necessary to identify a tattoo.</td>
<td>Can be colour-coded or inscribed to identify individual animals.</td>
</tr>
<tr>
<td>Can fade and become illegible over time.</td>
<td><strong>Disadvantages</strong></td>
</tr>
<tr>
<td>Can be difficult to locate.</td>
<td>Can be easily removed, deliberately or accidentally.</td>
</tr>
<tr>
<td>Requires general anaesthetic to be applied – painful procedure.</td>
<td>Can break or become caught, potentially harming the animal.</td>
</tr>
<tr>
<td>Requires specialist equipment and trained staff. Can be time-consuming and cleaning of needles is necessary to prevent infection and disease transmission between animals.</td>
<td>Collars and tags are susceptible to various forms of degradation with time.</td>
</tr>
<tr>
<td>Tattoos can be removed or altered or even lead to burning or removal of ear to remove identification.</td>
<td>Can require specialist training to apply (eg through nets, for dogs that cannot be handled by their owners).</td>
</tr>
<tr>
<td>Takes a few days to become legible.</td>
<td><strong>Disadvantages</strong></td>
</tr>
<tr>
<td></td>
<td>Can be easily removed, deliberately or accidentally.</td>
</tr>
<tr>
<td></td>
<td>Can break or become caught, potentially harming the animal.</td>
</tr>
<tr>
<td></td>
<td>Collars and tags are susceptible to various forms of degradation with time.</td>
</tr>
<tr>
<td></td>
<td>Can require specialist training to apply (eg through nets, for dogs that cannot be handled by their owners).</td>
</tr>
</tbody>
</table>
Notes
Legislation – developing and enforcing

Humane dog management programmes need to be supported by both national and local legislation. National legislation should ensure that minimum standards are maintained in its application while local legislation can allow for variables. These might include local dog populations needing to be vaccinated against rabies in endemic areas.

Dog-related legislation may already exist in some countries but be inadequately enforced; inadequate enforcement can actually make dog population issues even worse. Legislation and its implementation should be supported by education and enforcement and be designed to control both the owned (roaming and confined) and unowned dogs.

The legislation itself should include a reference to the human and financial resources available for implementation. It should also detail the ways relevant authorities are in charge of its development and potential revision.

Enforcement issues

Enforcement needs to be kept at a high level at all times. This is because relaxation can lead to a resurgence of the problem. For example, for public health risks like rabies, enforced legislation and mandatory dog vaccination can reduce the risk of disease. But, if enforcement relaxes when the risk of the disease diminishes, resurgence of the problem is a possibility.
Legislation can ensure that management programmes are carried out humanely and that animal welfare is assured. Laws should be considered suitable and reasonable by the community, engage authorities with their responsibilities and improve animal welfare. They should also ensure the programme is sustainable.

Every nation should have comprehensive animal welfare legislation. We have developed a Model Animal Welfare Law to help nations develop and review animal welfare legislation. Please contact the Animals in Communities team for more information.

Examples of areas to be covered by legislation

**Legislation affecting anyone that handles animals**
These laws should focus on the protection of animals from cruelty and be applicable to anyone that handles animals.

- Legislation should also state that owners and people caring for animals need to ensure that necessary care is provided so that animals’ needs are met.

**Legislation affecting dog owners**

- **Responsible dog ownership**
  - The laws should include provisions for:
    - identification and registration of dogs
    - vaccination requirements (e.g., compulsory rabies vaccination)
    - abandonment legislation
    - restriction of movement/roaming.

- Control of dog movements/relocations.
  - This should focus on import/export requirements.

**Legislation affecting institutions that handle animals**

- Legislation on breeding to control the supply of dogs.
  - To ensure the welfare of the animals is protected, commercial breeders and sellers should be subject to regulations and minimum standards.

**Legislation affecting governments**

- **Notifiable diseases**
  - Making a disease of public health concern notifiable allows for the collection of statistics showing how often the disease occurs. This will help identify disease trends and track disease outbreaks.

- **Legislation against dog culling**
  - Implementation of humane dog management programmes.
    - Dog control laws.

- These should cover requirements local authorities will need to implement, including training staff appropriately and creating infrastructure such as holding facilities.

- The laws should also regulate the control/removal of unowned/unwanted dogs.

- Regulations to control garbage disposal.

**Legislation affecting veterinarians**

- **Registration and qualification for registration**
  - To ensure the welfare of animals is protected, any person wanting to practice veterinary medicine is required to obtain a recognised veterinary degree and be eligible to register in the country.

- **Controlled access to drugs**
  - The supply, storage, dispensing and destruction of certain drugs need to be controlled. Such drugs include:
    - drugs used for euthanasia – barbiturates
    - drugs with potential for abuse, such as morphine, methadone and ketamine.

**Legislation affecting other institutions**

- This involves regulations to control disposal of animal waste products in:
  - abattoirs
  - fisheries
  - dairy farms.

Notes:


For more information, please contact animalsincommunities@worldanimalprotection.org

worldanimalprotection.org
Monitoring and evaluating

Monitoring and evaluation (M&E) are important to assess the quality and impact as well as assessing the progress and success of humane management programmes. M&E ensure that resources are used appropriately and identify when plans are ineffective (and effective) and, if circumstances change, how the programme can be adjusted.\(^1\,^2\).

Monitoring and evaluation help to\(^2\,^3\):

- review programme progress
- identify problems in planning and/or implementation
- make adjustments possible to improve programme outcomes.

Three main reasons for carrying out monitoring and evaluation\(^3\,^4\):

- to help improve performance of the programme
- to provide accountability to those that invest in the programme to show that it is achieving its aims
- to compare successes in different locations and situations when standardised methods are being used.

Selecting indicators

Monitoring and evaluation involve the measurement of indicators. Indicators reflect important components at different stages of the programme. They are also used as a comparison to the baseline data collected during the initial assessment. The indicators should reflect what the programme is aiming to achieve and should take the interests of all stakeholders into account4.

The selection of impacts and indicators is location-specific. However, some components should generally be included in the monitoring and evaluation of a humane management programme. These include6:

- dog population size, including sub-populations, such as owned and unowned dogs
- dog welfare
- prevalence of zoonotic diseases
- responsible dog ownership.

For more information on the selection of indicators and the process of monitoring and evaluation, please see the International Companion Animal Management (ICAM) coalition’s ‘Are we making a difference? A guide to monitoring and evaluating dog population management interventions’5. Alternatively, contact the Animals in Communities team below.

Examples of indicators for a desired impact5

<table>
<thead>
<tr>
<th>Desired impact</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved dog welfare</td>
<td>Body condition score, Skin condition score, Culling of dogs, Human-dog interactions</td>
</tr>
</tbody>
</table>

Surveying the dog population

To make realistic plans for a management programme and to monitor success, dog population estimates before and during the intervention are necessary. For development of effective management plans additional information is also needed. This can include: the source of free-roaming dogs, the proportion of the population that is owned and the degree to which owned dogs are supervised, etc6, 6.

In areas with a large proportion of free-roaming dogs, direct observation or marking and recapturing techniques can be used to determine the size of the population6. Questionnaire surveys may be used to determine the proportion of owned dogs. For an example of how to survey the dog population see World Animal Protection’s (WSPA) ‘Surveying roaming dog populations: guidelines and methodology’7.

Aspects to consider when counting dogs

- Visibility of dogs depends on the physical environment and on dog and human activity patterns.
- Visibility of animals changes based on time of day and time of year. This is because food and shelter availability, disturbance, etc will differ.
- Counts should be carried out at the same time each day within a defined geographical area to get an indication of population trends.

Notes:


For more information, please contact
animalsincommunities@worldanimalprotection.org

worldanimalprotection.org
Breeding matters: A stray mother dog in India.

Primary dog healthcare

Controlling reproduction in dogs can be achieved through permanent or temporary measures.

Temporary measures include chemical sterilisation/contraception and physical isolation of females when in oestrus. There are currently no chemical contraceptive methods available without associated risks.

Consequently, this document will only include surgical sterilisation; the most reliable contraceptive method for use in free-roaming dogs.

Reproduction control has long been regarded as a means to reduce the dog population size. Studies have shown, however, varied results with some study areas maintaining population size whereas a reduction was seen in others over time.

Increasing evidence now suggests that local dog population size is regulated by community and/or owner behaviour. This means changing the attitudes to ownership may be more likely to affect population size than reproduction control. As a result plans for mass dog sterilisation and how to implement them should be informed by location-specific dog population criteria and local attitudes towards dogs.

Glossary

Sterilisation: Method to make a dog infertile.
Neuter: Removal of an animal’s reproductive organ.
Spay: Sterilisation of a female dog.
Castration: Sterilisation of a male dog.
Important considerations

To help target reproductive control efforts and resources the following questions need to be considered

- What dogs are producing the unwanted puppies?
- Are the free-roaming dogs owned or un-owned?
- What are the attitudes towards the dogs in the community?
- Who is able to perform surgical sterilisations safely and humanely?

Sterilisation may be used on a case-by-case basis to deal with problematic behaviour, like aggression during mating season, or the tendency for specific dogs to roam. Although, sterilisation does not always curb these behaviours, it may address welfare issues, such as dumping or killing of unwanted puppies.

Surgical sterilisations should always be carried out under general anaesthesia by a qualified veterinarian, with adequate training in the procedure for dogs. Sterilisation requires the use of good aseptic techniques and pain management throughout and after the procedure.

Notes

Rabies – the importance of vaccinating dogs

Dogs are the main source of infection to humans. Mass vaccination, covering at least 70% of the dog population, and public awareness of the disease, have shown:

- the incidence of dog bites may be reduced as people become more aware of the disease and learn how to behave around dogs to avoid getting bitten
- the use of post-exposure prophylaxis (PEP) is reduced
- a significant reduction, even elimination, in human and animal rabies.

Mass dog vaccination is scientifically proven to be much more effective in terms of cost and eradication of disease than culling. Vaccinated dogs provide a barrier against infection to both dogs and humans (herd immunity). As more dogs are vaccinated, herd immunity improves and the demand for very costly PEP and dog bite treatment are greatly reduced.

Vaccination and parasite control

Management programmes are in many instances driven by the fear of zoonotic disease spread. This fear often leads to dog culls. Such methods are counterproductive to disease elimination and often result in slow, agonising animal deaths due to the inhumane methods used.

Free-roaming dogs are associated with a multitude of bacterial, viral, and parasitic diseases that pose a threat to humans and the welfare of dogs. Regular preventative veterinary treatment, such as deworming and vaccinations, benefits both humans and dogs.

Treatment can be provided in conjunction with neutering, identification and registration, and education to encourage responsible dog ownership. By offering local communities advice and access to these services, other components (such as a dog’s basic needs) of responsible dog ownership and their benefits can be promoted simultaneously.

It is important to maintain the vaccine and treatment coverage at the appropriate levels as herd immunity can be affected by a high dog population turnover. High population turnover will lead to the introduction of new, unvaccinated/untreated dogs and could cause a resurgence in disease incidence as herd immunity within the dog population drops.

We have developed vaccination, dog handling, and rabies recognition guides for organisations and communities. They are a comprehensive resource for the planning and implementation of mass dog vaccination programmes for humane rabies control. Please visit www.animalmosaic.org for access to these guides.

Helping hands: A woman holds her dog for his rabies vaccination in Tongzi, China.
Case study
Eliminating rabies humanely in China

World Animal Protection is collaborating with the China Animal Disease Control Centre (CADC), to develop humane and sustainable ways of eliminating rabies in the country.

Following the collection of dog population data by the CADC, the following three sites were chosen for pilot mass dog vaccination projects.

- Hancheng (City)
- Jieshou (Rural)
- Tongzi (Peri-urban)

The project follows WHO recommendations which outline that at least 70% of the dog population needs to be vaccinated to achieve herd immunity.

The first round of vaccinations carried out in 2013 covered 89% of the total dog population across these sites. The second round of vaccinations in 2014, covered 90%. During this time, no dog culling was reported in any of the pilot sites. The third round of vaccinations is planned for the second part of 2015.

Alongside the vaccinations, various public mobilisation activities were conducted by local Animal Disease Control Centres. These were designed to help local citizens, especially pet owners, understand the importance of rabies control and to promote responsible pet ownership. This helped greatly with the implementation of the pilot projects. We will use the success of these pilot projects to promote mass dog vaccination across other areas.

To further help China introduce an advanced humane rabies control approach, we organised a study trip for two delegates from the CADC to Brazil’s ministry of health. The objective was to learn about the Brazilian government’s successful nationwide rabies control policy, and its onsite implementation in Maceió. Knowledge gained from this visit greatly helped implementation work at the Chinese pilot sites.

Preventative veterinary treatment includes:

- regular (usually yearly) vaccinations against diseases including distemper, canine hepatitis, parvovirus, leptospirosis and rabies. Vaccine protocols will differ depending on the country.
- anti-parasite treatment – this involves treatment against both internal (eg worms, protozoa) and external (eg fleas, mites) parasites. Treatment is generally available as tablets, ‘spot-ons’, impregnated collars, and dips and have to be given several times a year for protection to be assured.
- Regular health checks – usually yearly (+/- in conjunction with vaccination).

Consult a veterinarian or veterinary body in your country to find out what treatments and vaccine protocols are relevant in your area.

Notes
Local ambassador: Dog owner Mohammed Nassor Mauly promotes the importance of rabies vaccinations in Zanzibar.

Stakeholders – governments, educators, veterinarians, local people and others...

When developing humane management programmes all relevant stakeholders and their responsibilities need to be identified. Only with their involvement can successful and sustainable solutions be created. We can support stakeholders in a number of ways depending on the resources we have available.
The following table gives examples of those to be consulted in the implementation of a dog management programme, their responsibilities, and the support we may be able to offer.

<table>
<thead>
<tr>
<th>Government Stakeholders</th>
<th>Veterinary community Stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stakeholders</strong></td>
<td><strong>Support World Animal Protection can provide</strong></td>
</tr>
<tr>
<td>Legislators</td>
<td>Advising on the development and support needed to implement policies, legislations and the National Action Plan.</td>
</tr>
<tr>
<td>Environmental/Sanitation department</td>
<td>Developing and implementing a humane management National Action Plan.</td>
</tr>
<tr>
<td>Education department</td>
<td>Implementing of dog-related legislation.</td>
</tr>
<tr>
<td>Ministry of health</td>
<td>Developing of education programmes, eg dog bite prevention.</td>
</tr>
<tr>
<td>Tourism department</td>
<td>Raising awareness of zoonotic diseases with the public.</td>
</tr>
<tr>
<td>Veterinary department</td>
<td>Training relevant staff, eg. Animal Control Officers in humane dog handling, vaccinations etc.</td>
</tr>
<tr>
<td>Local governmental agencies</td>
<td>Monitoring and evaluating dog management strategies.</td>
</tr>
<tr>
<td>Ministry of agriculture</td>
<td>Stakeholders responsibilities</td>
</tr>
<tr>
<td>Animal health department</td>
<td>National governing body</td>
</tr>
<tr>
<td>Ministry of Finance</td>
<td>Veterinary professional associations</td>
</tr>
<tr>
<td><strong>Stakeholders</strong></td>
<td>Private practitioners</td>
</tr>
<tr>
<td><strong>Support World Animal Protection can provide</strong></td>
<td>University veterinary department</td>
</tr>
<tr>
<td><strong>National governing body</strong></td>
<td>Animal health colleges and polytechnics - para-veterinary staff</td>
</tr>
<tr>
<td><strong>Veterinary professional associations</strong></td>
<td>Support World Animal Protection can provide</td>
</tr>
<tr>
<td><strong>Private practitioners</strong></td>
<td>Training of vets and vet professionals in safe animal handling.</td>
</tr>
<tr>
<td><strong>University veterinary department</strong></td>
<td>Training of vets in safe surgical techniques and animal care.</td>
</tr>
<tr>
<td><strong>Animal health colleges and polytechnics - para-veterinary staff</strong></td>
<td>Providing educational material to be distributed by vets to pet owners in vet clinics.</td>
</tr>
<tr>
<td><strong>Stakeholder responsibilities</strong></td>
<td>Providing guidelines on mass dog vaccinations.</td>
</tr>
</tbody>
</table>

Community action: The local Animal Disease Control Centre carries out vaccinations in Jieshou City, China.

**NGOs (local, national, and international)**

**Stakeholder responsibilities**

- Raising awareness in communities on the importance of humane management improving the welfare of dogs and people.
- Mobilising public support to ensure humane management strategies are implemented.

**Support World Animal Protection can provide**

- Supporting national and local NGOs (where applicable) to improve their management strategies which in turn will improve dog welfare.
- Training and developing skills within national NGOs on humane management measures.

**Animal sheltering, fostering, rehoming community**

**Stakeholder responsibilities**

- Providing shelter, treatment and care for neglected, abused, abandoned and injured animals.
- Promoting rehoming/adoption of dogs by the public.

**Support World Animal Protection can provide**

- Facilitating working relationships between shelters and local governments.
- Advising on shelter management.

**International bodies**

**Stakeholders**

- e.g. World Health Organization (WHO), World Organization for Animal Health (OIE), Food and Agriculture Organization of the United Nations (FAO), Association of South East Asian Nations (ASEAN)

**Stakeholder responsibilities**

- Lobbying, supporting and working with national governments and NGOs to improve the strategies for managing and improving the welfare of dogs and people.
- Exchanging public health, animal health and scientific information.

**Support World Animal Protection can provide**

- Establishing long-term partnerships with international bodies and developing examples of management projects in the respective country/region.
- Developing and disseminating information, education and communication materials.
## Academic community with relevant experience

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Support World Animal Protection can provide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterinary science</td>
<td>Establishing partnerships to develop credible evidence supporting humane management strategies.</td>
</tr>
<tr>
<td>Sociology</td>
<td>Researching, supporting and partnering with academics.</td>
</tr>
<tr>
<td>Ecology</td>
<td></td>
</tr>
<tr>
<td>Epidemiology</td>
<td></td>
</tr>
</tbody>
</table>

**Stakeholder responsibilities**
- Developing credible evidence for humane and effective management.
- Training professionals on the importance of humane management procedures.
- Carrying out surveillance of projects.
- Monitoring and evaluating.

## International, national and local media

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Support World Animal Protection can provide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dog owners</td>
<td>Establishing and raising the profile of the importance of humane management measures and responsible dog ownership.</td>
</tr>
<tr>
<td>Non-dog owners</td>
<td>Creating awareness of issues related to humane management programmes for improving the welfare of dogs and humans.</td>
</tr>
<tr>
<td>Teachers</td>
<td>Generating support.</td>
</tr>
<tr>
<td>Healthcare professionals</td>
<td>Arranging publicity on humane management measures.</td>
</tr>
</tbody>
</table>

**Stakeholder responsibilities**
- Establishing partnerships with local/national media to create awareness.

## Local community leaders and representatives

<table>
<thead>
<tr>
<th>Stakeholder responsibilities</th>
<th>Support World Animal Protection can provide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providing leadership for humane management programmes at a local level.</td>
<td>Creating awareness.</td>
</tr>
<tr>
<td>Raising their voice against inhumane culling.</td>
<td>Mobilising local leaders to galvanize change at national level.</td>
</tr>
</tbody>
</table>

## Local community

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Stakeholder responsibilities</th>
<th>Support World Animal Protection can provide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dog owners</td>
<td>Leadership at community level.</td>
<td>Putting pressure on local and national government to implement humane and effective management programmes and to stop the inhumane culling of dogs.</td>
</tr>
<tr>
<td>Non-dog owners</td>
<td>Promoting responsible treatment of dogs and responsible dog ownership.</td>
<td>Providing educational material on humane management methods and responsible dog ownership.</td>
</tr>
<tr>
<td>Teachers</td>
<td>Educating others and passing on knowledge.</td>
<td></td>
</tr>
<tr>
<td>Healthcare professionals</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For more information, please contact animalsincommunities@worldanimalprotection.org