

Chapter 6 Socio-economic questionnaires completed with the assistance of dog-owners in Boksburg, Jericho, Zuurbekom and Mamelodi

6.1 Introduction: In modern times, the domestic dog is found in all human communities. The attitude and human interrelation with the domestic dog varies within different population groups due to differing cultural approaches (Gallant, 1998). According to Gallant, certain parts of the society, with a high level of appreciation and care for their own dogs, despise the dogs kept in other communities. The reason for this may be prejudices, as the general feeling among residents of high-income communities often see the crossbred dogs more commonly found in resource-limited communities as "inferior" (personal observation). The main purpose of the questionnaire was to determine the relationship between the dog and its owner, and evaluate the social position and importance of dogs in the communities.

6.2 Materials and methods: A questionnaire was formulated (Appendix A) and implemented as a semi-structured interview during the Veterinary Needs Appraisals (VNAs) (Mettrick, 1993). The dog-owners were guided through the questions verbally, with the assistance of an interpreter where and when necessary. The approach was similar to a checklist, rather than a questionnaire. The researcher was personally involved in completion of the questionnaire in order to ensure that the questions were correctly understood (Fig. 6.1). This helped to eliminate the possible constraints of illiteracy, and to provide complete information with regard to the factors that influence the dog's health, level of parasitism, environment, and the

owner's economic situation. The questions were asked and steps were taken to assure that each question was properly understood. The questions were preferably simplified and explained rather than giving examples and a choice of answers to keep the answers unbiased. Some of the answers could be written down by careful observation of the environment, for example, questions relating to property boundaries, type of food offered to the dogs, shelter, bedding, restraint, etc.



Fig. 6.1 The author (right) completing a questionnaire with a dog-owner in Jericho, North-West Province (Courtesy R C Krecek)

Questionnaires were completed for all the owners of the dogs sampled in the VNAs. The Boksburg section of the study was conducted in two parts: firstly, the townships

and informal settlements around Boksburg were visited and samples collected from the live dogs, and secondly, samples were collected from stray dogs, unwanted puppies and abused dogs that were euthanased by the local SPCA. Questionnaires were completed during visits to the communities in Boksburg when the live dogs were sampled, because on these occasions there was contact with the dog-owners. The samples collected in Bloemfontein were from SPCA euthanased dogs only, and the only information available was the suburb of origin. For the Bloemfontein study, therefore, no questionnaires were completed.

The ESS is a tool developed by McCrindle et al. (1994) for the measurement of the economic status of community members, the assessment of which was applied using certain criteria (Table 6.1). McCrindle et al. applied the abbreviation ESSCORE, but for this study ESS was used to conform to the abbreviation used for BCS.

Table 6.1 Economic Situation Score (ESS) Method (after McCrindle et al., 1994)

ESS	Dwelling	Description
1	Lean-to or hut	Roof held down with stones, walls corrugated iron, mud, wooden or thatch, floors mud or manure, open cooking fire
2	One- or two-roomed	Walls mud with thatch or corrugated iron or concrete blocks, cement floors, no gutters or ceiling
3	Three- to four-roomed	Walls plastered or painted, ceilings, gutters and drainpipes, electricity or gas, electrical or coal stoves
4	Five- or more-roomed	Face brick or plastered and painted walls, electricity or gas, stove, refrigerator, TV and/or music centre
5	Two or three bedrooms	Separate kitchen, lounge, bathroom, piped water to house, own borehole, electricity or gas, TV and video recorder, wall-to-wall carpets

6.3 Results: The questionnaire information was linked with the individual dog information for the four study areas (Boksburg, Jericho, Zuurbekom and Mamelodi) and considered in the final data analyses. The helminthology results are discussed separately under each of the study areas (Chapters 3 - 5). The research team visited 27 villages in these four study areas (Boksburg, Jericho, Zuurbekom and Mamelodi). A total of 446 dog-owners were interviewed, of whom 10 (2.2%) were retired and 290 (65%) were unemployed. These figures do not include contract and "piece" workers.

Of all the dog-owners interviewed, 66% owned three dogs or less, and 83% owned five dogs or less. One owned 17 dogs. Sixty-six to seventy-four percent of all dogs were roaming freely a large part of the time.

The most common reason given for owning a dog was for security purposes (Fig. 6.2), which created the impression that a lack of security was a big problem in the resource-limited communities. The dogs were therefore expected to work, rather than just be around for the enjoyment of the owners and their families.

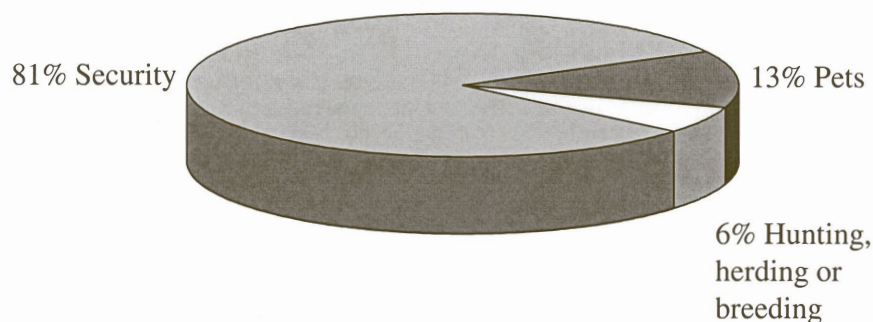


Fig. 6.2 Reasons for owning dogs in the resource-limited communities of Boksburg, Jericho, Zuurbekom and Mamelodi

Various combinations of food were given on the basis of "when available", and occasional supplementation regarded as leftovers included bones, fat and meat broth, etc. Some owners also added milk or food scraps to the base diet of porridge. Meat was given to the dogs in various forms, e.g., mince, butchers' sawdust, slaughter scraps, etc. The basic diets fed to the dogs are in Fig. 6.3.

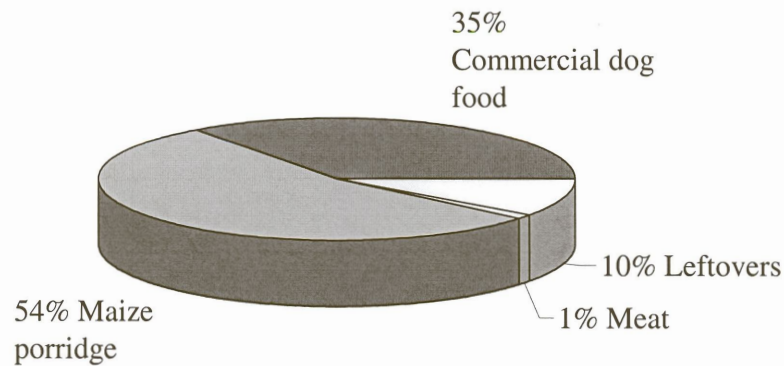


Fig. 6.3 Basic diet of dogs in the resource-limited communities of Boksburg, Jericho, Zuurbekom and Mamelodi

Most owners didn't practice any form of internal parasite control (Fig. 6.4). Only 18% reported deworming their dogs at some stage during these animals' lives.

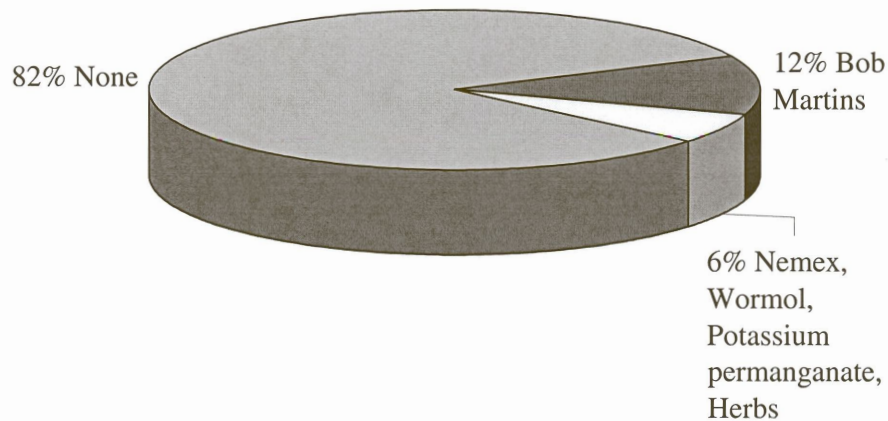


Fig. 6.4 Deworming remedies reported used for dogs by owners in the resource-limited communities of Boksburg, Jericho, Zuurbekom and Mamelodi

Standard veterinary procedures were not normally performed on the dogs (Fig. 6.5), but the owners would certainly consider it if there was a veterinarian in the vicinity, and if they could afford it. Of all the dogs sampled, 88% had never been given any form of veterinary attention. Some dogs had been vaccinated and this was done during one of the government's rabies vaccination campaigns. Dogs with docked tails had had this procedure done by their owners.

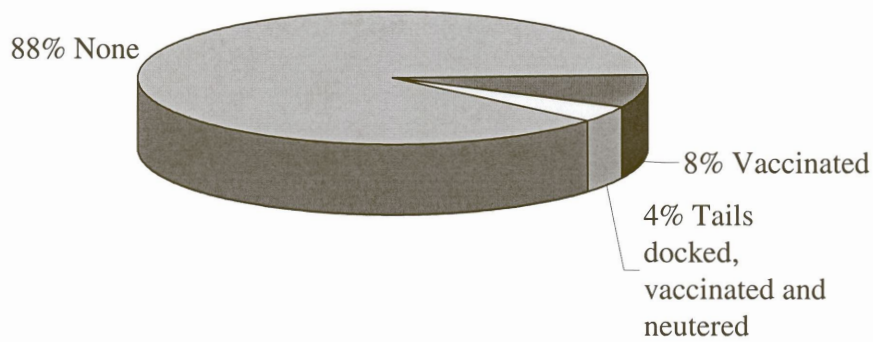


Fig. 6.5 Veterinary procedures in addition to deworming carried out on dogs in the resource-limited communities of Boksburg, Jericho, Zuurbekom and Mamelodi

Most dog-owners adopted a policy of "wait and see" when asked what their actions would be should their dogs become ill. Many said they would not do anything specific but just let the disease run its course (Fig. 6.6).

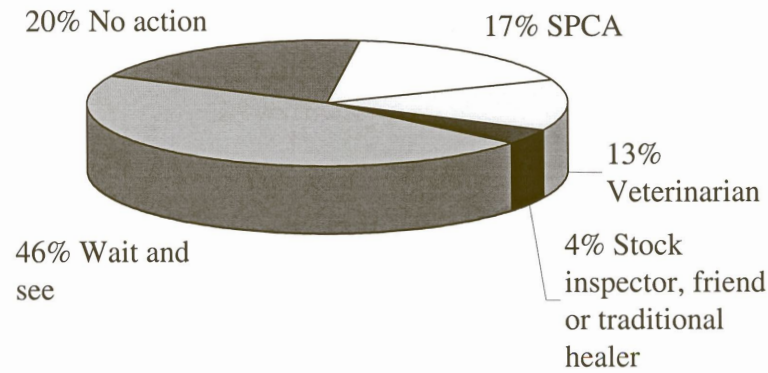


Fig. 6.6 Veterinary actions in case of illness of dogs in the resource-limited communities of Boksburg, Jericho, Zuurbekom and Mamelodi

Economic Situation Scores (McCrimdell et al., 1994) were not done in Jericho and Zuurbekom. Jericho is a rural community with a communal land farming system, and wealth within the community is measured traditionally in terms of cattle numbers. The municipal structure is based on the traditional tribal system as mentioned in Chapter 5. Although water and electricity was lacking in some of the smaller surrounding villages, the overall living standard of the community seemed rather well developed, but this was difficult to express in western terms. Zuurbekom was a formal settlement area for smallholders. In this study area it was difficult to assess the economic situation, as most of the homes previously belonged to affluent farmers before the government's farmer resettlement programme took over the land. Many of the new houses were built as part of the government housing project, and therefore it did not indicate the true economic situation. The Mamelodi study area reflected more or less the same general economic situation as Boksburg. Both are urban informal settlement areas, large sections of which consist of corrugated iron shacks with or without property borders, narrow, often eroded dirt roads and little or no municipal services. An ESS assessment was conducted (Fig. 6.7) on the dog-owning families in

the Mamelodi study area only. The larger proportion of families was classified as ESS2.

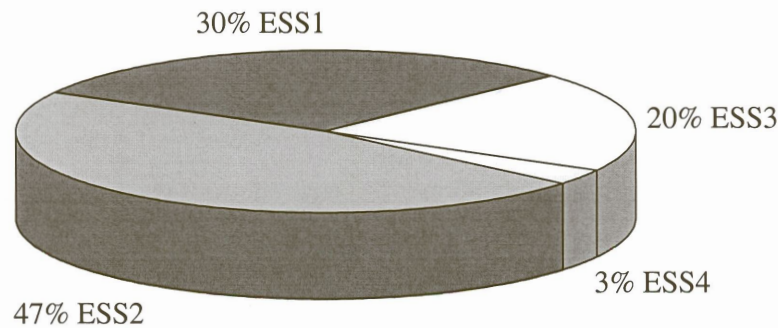


Fig. 6.7 Economic Situation Scores (ESS) of dog-owners in Mamelodi

6.4 **Discussion:** While many of the dogs were in reasonably good condition (score 3), 43% were lower than 3, which is probably not attributed to quantity but rather quality of the food given to them to eat. Less than 50% were offered protein as primary nutrition, and most diets only consisted of maize-based carbohydrates. With the effects of parasitism (Chapters 3 and 5) added, and in particular where large numbers of *A. caninum* are present, this may lead to protein, vitamin (particularly B12) and mineral (i.e., sodium) deficiencies. This could result in stunted growth, sub-optimal body condition, increased susceptibility to diseases as well as nutritional and hormonal imbalance (Nelson and Couto, 1998; Roitt, 1997).

One hundred and eighty-four of all the 436 dog-owners (42.2%) in the study removed dog faeces from the environment. This is significant because this is probably the step of helminth parasite control which can have the most impact on worm levels in the environment (R C Krecek, personal communication, 1999; Herd, 1986). In these

study areas where dogs roam freely there is a high level of transmission. Deworming together with faecal removal is a strategy that reduces worm levels significantly in other hosts such as donkeys (S Matthee, personal communication, 1999).

Helminth parasite levels in dogs of which the owners said they dewormed their dogs regularly (18%) were no different when compared with helminth parasite levels in dogs of owners who did not deworm their animals (Fig. 6.4). Clearly their deworming strategies were ineffective. With good management (regular removal of dog faeces, restricted movement, improved hygiene, etc.), deworming may not be necessary at all. Parasite control, if applied with appropriate knowledge and understanding (correct diagnosis together with effective dewormer, regular deworming of pups and young dogs, deworming of pregnant and lactating bitches and sick animals) can be cost-effective.

On the topic of animal health care, a "no intervention" or "wait-and-see" approach will not be in the animal's best interest. Although some degree of resistance to parasites by hosts develops in time (Miller, 1968), most cases of helminthosis don't just go away. The lack of veterinary care is even more serious in households where there is more than one dog, as reinfection and cross-infection continue to take place. The dog-owners may argue that they cannot afford the cost of deworming their dogs, but that doesn't justify having large numbers of dogs. Feeding an extra dog for a year costs more than two dogs' deworming for a year. The same argument applies to the topic of restricting the dogs' movements.

Parasitism in dogs in these communities is even more alarming if one thinks of the accumulation of infective stages of helminths in the environment and the threat they pose to the human population (Holland et al., 1991). Most of the helminths encountered in these study areas were zoonotic, and the women and children were particularly at risk, as they were the ones who came into more regular contact with the infective environment and infected dogs.