

# Understanding risk in human–animal interactions

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**There needs to be better understanding not only of the importance of animals in the lives of displaced people but also of the potential risks incurred by human–animal interactions and how best to mitigate these risks.**

Animals in refugee camps can improve people's health and well-being. They are a source of food and a commodity which can be sold or exchanged or kept as an investment. Animals can also be a source of psychological comfort,<sup>1</sup> can potentially help refugees to preserve cultural identity and can serve as a marker of normal life. For example, Syrian refugees in camps in Jordan are prepared to spend a substantial part of their monthly income on a singing bird because such a bird – in Syrian culture – is what turns a house into a home. However, close proximity of animals and humans can be a source of risk, and understanding of the risks posed by animals within refugee camps is generally poor.

A public health model published in 1991 by Dahlgren and Whitehead offers one approach to mapping the potential sources of hazards associated with animals in refugee camps.<sup>2</sup> The model shows how health inequities are shaped by a combination of cultural, political, environmental and social factors as well as by individuals'

attributes. These factors influence both the risks to an individual who is in contact with animals and also how they experience an illness and their ability to access the resources needed for recovery.

## **Political/organisational environment:**

At the widest level in this scenario is the international and national political climate – the wars and fighting that dictate the global movement of people and their animals (including who is displaced and where the camps are built) – and the policies of the organisations that run and support camps. All these aspects will have an impact on human and animal health, and the effectiveness of the management of human–animal interactions will depend on which agencies are on the ground and the degree of expertise that they have in this area. For example, vaccination alone may not suffice in entirely preventing outbreaks of diseases within herds (as the success of a vaccination programme depends also on aspects such as

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the coverage and timing of the vaccination programme) but it can reduce risk.

**Physical environment:** The environment through which people travel and the setting of the camp itself can contribute to the burden of risk. For instance, Afghan refugee camps established in early 1990 on the western boarder of Pakistan were situated on marginal waterlogged terrain, which encourages malaria. As Afghanistan had run a successful malaria control programme prior to the Soviet-Afghan war, the refugees arriving in Pakistan had no immunity to the disease. Families who arrived with animals, and camps with more livestock, experienced greater prevalence of malaria as the livestock provided mosquitos with an easy source of blood, which boosted the mosquito population.<sup>3</sup> More broadly speaking, animals that flee with their owners may be exposed to new diseases to which they have no immunity or may themselves carry diseases to which local animal populations are susceptible.

The built environment can also have an impact on the level of risk in human–animal interactions. The presence of animals is seldom factored into the design of refugee camps. In Za'atari refugee camp in Jordan, for example, people developed their own ways of keeping poultry, often by transforming human accommodation. Lack of suitable, designated spaces for animals may result in poor sanitation, increasing the risk of diseases to the animal population and transmission of certain diseases to people.

**Social environment:** Social factors shape a person's exposure to risk. For example, culture, tradition and religion influence how animals are killed and by whom, and how their meat is prepared and consumed. This in turn could alter the risk of a range of infectious diseases and the risk of physical injury linked to handling animals.

Attitudes and beliefs about practices around animals, such as perception of efficacy of vaccinations, are also influenced by the immediate community and family, and could shape how likely a person is to engage in behaviours which could reduce

risk. In addition, a person may need to rely on their social networks (for finance, information, contacts and so on) in order to access resources – such as veterinary care – which could help to reduce risk. Individuals living in a camp with an extended family may therefore be able to access help more readily than someone who is isolated or who only arrived recently. Social support could also reduce the impact of the loss of an animal and improve recovery from an injury or illness caused by animals.

**Individual attributes:** Stress linked with evacuation and the camp environment is likely to compromise the immunity of animals and people. Under prolonged periods of stress, humans and animals may be more susceptible to certain diseases carried by cattle (like brucellosis or tuberculosis) which in normal circumstances may not pose the same risk. The profile of risk is dependent on the range of animals kept in the camp; where dogs and livestock are kept in close proximity to each other and to humans, for example, certain types of tapeworm may become a risk for humans. Presence of cows adds to the risk of injury due to crushing or being kicked, and dogs may bite. An individual animal's temperament, species/breed and habituation to handling will also contribute to the risk that this animal poses. Meanwhile, a person's gender, age, personality, health and so on are likely to modify their risk. For instance, in many cultures, women and girls are more likely to be responsible for small ruminants (such as sheep and goats) and poultry whereas men tend to care for livestock.

The model outlined above could be used to systematically map risks (and benefits) of human–animal interactions in the context of forced migration and to determine how these risks could be mitigated, whether at the level of decision making about location of camps, at the camp design, construction and management level, or at the individual level. Although there are existing policies on how to assess such risk, Livestock Emergency Guidelines and Standards (LEGS) provides comprehensive guidelines, checklists and

'decision trees' related to protecting livestock during different stages of an emergency response.<sup>4</sup> The UN Refugee Agency, UNHCR, has also developed a handbook on livestock keeping and animal husbandry which covers similar areas, again focusing primarily on livestock and poultry.<sup>5</sup> UNHCR's Camp Planning Standards do not offer explicit guidelines for provision of space for animals but suggest that planned sites should a) avoid areas where the environment may increase the risk of animal-borne diseases like malaria and b) provide space for small-scale cultivation.<sup>6</sup>

Surveillance of animals that live in and near refugee camps is the first step in risk management. Counting and health assessments for animals could include local veterinarian professionals, international veterinary non-governmental organisations and local animal-keeping communities trained in disease detection. While assessing risk in keeping livestock is crucial, the models need to include identifying risks in interactions with other animals that live in camps as well (such as dogs, cats or birds which may live nearby). More broadly, the involvement of veterinary

professionals in planning, setting up and running refugee settlements could help with assessing basic needs and coordinating local responses, which may include education and the provision of food, water, shelter and basic medical care for the animals.

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