

3 General overview of animal welfare in a global perspective

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Animal welfare is a broad subject to examine in one study. During this project general animal welfare information was obtained on 23 countries outside the EU (initially 49 countries and/or regions were involved).

All Dutch Foreign Agricultural Services that were contacted have responded, but they differed considerably in the extent to which they could provide answers to the questions. Information reported by the Dutch Foreign Agricultural Services was, to a variable extent, drawn from personal expertise and information sources (local information, for example, was obtained from contacting local policy makers, NGOs and experts).

Animal welfare regulations (all animals), main farming practices (farm animals only) and perceptions of welfare issues (all animals) are described for each region (per continent).

3.1 Africa

For Africa information was obtained from Egypt, Ethiopia, Kenya and South Africa. Some background information about these countries can be found in the tables below. For further background information on animal welfare in Africa see Masiga and Munyua (2005).

Table 3.1 General information on African countries discussed in this chapter.

Country	Population (million)	GDP per capita (\$)	Climate	Arable land (%)	Main religion
Egypt	81.7	5,000	Desert	2.92	Muslim 90%
Ethiopia	82.5	700	Tropical monsoon	10.0	Christian 61%
Kenya	38.0	1,700	Tropical to arid	8.0	Protestant 45%
South Africa	48.8	9,700	Semiarid	12.0	Zion Christian 11.1%

Source: CIA World Factbook

Table 3.2 Information on 2005 livestock production and export of meat for African countries discussed in this chapter

Country	Species	Numbers present (head)	Meat export (tonnes)	Meat export to the EU (tonnes)
Egypt	Poultry	95,000,000	448	0
	Cattle	4,500,000	653	7
	Pigs	30,000	1	0
Ethiopia	Poultry	32,222,000	0	0
	Cattle	40,390,098	91	0
	Pigs	29,000	0	0
Kenya	Poultry	28,657,000	17	0
	Cattle	13,019,000	116	0
	Pigs	320,000	1,099	0
South Africa	Poultry	121,000,000	4,910	0
	Cattle	13,790,000	7,186	360
	Pigs	1,656,000	1,531	0

Source: FAOSTAT (2009)

3.1.1 Animal Welfare Regulations

The OIE investigated the legislative situation regarding animal welfare in 2008. Kahn (2008) sent out questionnaires to 51 African OIE member states, eleven of which responded. Of these eleven respondents, 36% (four countries) indicated that they had legislation on animal transportation in place, 64% had legislation on the slaughtering of animals, and 73% on killing animals as part of disease control measures. Furthermore, 73% had regulations on stray dog population control. Global averages for these parameters, according to the

questionnaire results, are 80%, 76%, 82% and 68%. This means that Africa, except for legislation on the control of stray dogs, has low scores in terms of welfare legislation compared to global averages.

As for voluntary schemes, two out of the eleven respondents had schemes concerning transport (18%), three concerning slaughter (27%) and two concerning killing for disease control (18%). This means that Africa has in general low scores on these measures, compared to global averages of 37%, 42% and 37% respectively (Kahn, 2008).

Egypt

There is legislation for farmed animals and wildlife in Egypt: the Penal Code, the Environmental Law and the Agricultural Law.

The penal code protects animals from harmful human actions. The killing or poisoning of an animal, for example, is prohibited (Article 355) and is punished by a jail sentence or a fine (Article 357).

The Environmental Law pays little attention to animals except in Article 28, but even this Article is not in conformity with the Penal Code. The Penal Code heavily penalises the killing or harming of animals with a somewhat severe penalty, while the Environmental Law focuses on specific kinds of wild birds and animals threatened with extinction, and also regulates the issue of hunting and the issuance of hunting licences, as hunting is not totally criminalised by law in regions where it is permitted. Article 28 of this law stipulates that it is totally forbidden to hunt, kill or capture wild birds and animals defined in the Law Executive Regulations. It is also forbidden to own such birds and animals, to walk about with them, sell them or display them for sale dead or alive. Moreover, damaging the nests of these birds or destroying their eggs is also prohibited. The Law Executive Regulations define the regions where this law applies and list the conditions needed to secure a hunting licence in those regions, as well as the administrative authorities responsible for the implementation of this Article. Article 84 of the same law stipulates under Penalties: "All who violate Article 28 of this Law will pay a fine, and will have the impounded birds and animals confiscated from them as well as the tools and utensils used to commit the violations".

The Agricultural Law states that it is forbidden to shoot, kill or capture wild animals, or birds in any manner useful to agriculture. It is also forbidden to own, transport, walk with, sell and display them dead or alive. Destroying the nests of certain birds or killing them is also prohibited. The Minister of Agriculture intends to issue a decree defining the type of birds and wild animals as well as the regions to which the rules of this Article apply; the decree will also define the conditions needed to obtain a licence to hunt those birds and wild animals for scientific reasons or for tourism in exceptional cases. Other articles in the law regulate the slaughter of male livestock to preserve animal assets, which is in no way related to compassion and mercy. Therefore, the law contains no articles for the protection of animals *per se*.

Ethiopia

Current legislation is based on regulations developed by Haile Selassie (Emperor of Ethiopia from 1928-1974). Ethiopia is now developing new legislation in various societal areas, and it is not yet known if any regulations specific to animal welfare will be developed.

Kenya

Government policies do not deal with animal welfare. However, there is a Prevention of Cruelty to Animals Act (criminal act of 1963, revised 1983, also known as Cap 360), based on British law. The Cap 360 is basic, imposes low fines, and contains no stipulations as to what is considered to be cruelty towards animals. The government is currently revising its livestock policy. A draft livestock policy was released in 2007, but makes no reference to animal welfare. Government and veterinary policies are programmed to livestock rearing. Their animal welfare emphasis has been on feeding and vaccination without any emphasis on the wider aspects of welfare such as handling, transport and slaughter. Pet animals received little attention, and were not even included in the veterinary students' curriculum. However, this situation is now changing, as animal welfare is much more in the public eye and "the powers that be" realise that animal welfare is an important subject. It has now been incorporated into the veterinary students' syllabus. The AWAKE (Animal Welfare Kenya) committee has been in existence for almost two years and has a mandate to change the law, but it does not seem to be acting very quickly. The KSPCA (Kenya Society for the Protection and Care of Animals, which works under Cap 360), is part of the committee and hopes that it will be able to give constructive input to the draft. It should be considered, however, that it is not quite known where the financial input for setting up the law(s) will be coming from. There is a move to update Cap 360, though this may take some time. The Act gives the KSPCA the possibility of entering property, confiscating suffering animals and working with the police to bring court cases against offenders. The main focus in Kenyan National Parks, Reserves and other areas is on environmental conservation. There are anti-poaching laws (that are enforced rather strictly by the Kenya Wildlife Service) but these stem from environmental concerns rather than animal welfare concerns.

South Africa

There are several acts that regulate animal welfare in South Africa, the main ones being as follows (both fall under the responsibilities of the National Department of Agriculture):

- Animal Protection Act, 1962 (Annex VI);
- Performing Animals Protection Act, 1935 (Annex VII).

Other important regulations are:

- Elephant Management Regulation;
- Marine Aquaculture policy;
- National Environmental Management: Biodiversity Act, 2004 (Annex VIII);
- Draft Policy for the Development of a Sustainable Wildlife Ranching Sector in South Africa;
- Animal Improvement Act, 1998;
- Societies for the Prevention of Cruelty to Animals Act (which governs the organisation and management of animal welfare associations).

The Animal Protection Act (No. 71 of 1962) is the general law about animal welfare (S.A.T.I.S. LTD, 2008) and aims to consolidate and amend the laws relating to the prevention of cruelty to animals.

The NSPCA (National Council of Societies for the Prevention of Cruelty to Animals) is the most active organisation with regard to animal welfare; it was founded in 1955 as the Federation of SPCAs to provide a forum to bring uniformity to welfare legislation and standards. Its members, the 92 SPCAs in South Africa, are governed by the SPCA Act 169 of 1993 which is administered by the NSPCA, which is therefore a statutory body. Their Inspectors are authorised in terms of the Animals Protection Act 71 of 1962 and the Performing Animal Protection Act No. 24 of 1935 with the SPCA movement collectively undertaking over 90% of all animal welfare investigations and prosecutions in South Africa. In cooperation with industry and government they have developed different codes of practice which can be regarded as soft law. These Codes of Practice have been negotiated by the NSPCA and animal-related industries and reflect minimum welfare standards. The Codes are also used in conjunction with the Animal Protection Act when prosecution is necessary. They do, however, encourage industry to implement the highest standards of care. According to Christine Kuch (NSPCA), South Africa has excellent animal welfare legislation.

3.1.2 *Farming practices in Africa*

Egypt

In Egypt, large numbers of dairy cows are used for commercial dairy production. These cows are kept outside, generally with a lot of space and shade. The main concern is the fact that most animal diseases are endemic and treated on the spot. Hygiene is also an issue of concern. Milk quality is an example of this and processing plants may have difficulties finding milk without medication residues (e.g. penicillin).

The smaller farms usually have from one to five cows which are used for multiple purposes. These small farms have primitive production conditions, and the cattle are part of the family. There are no management procedures and biosafety is at risk. The products are of poor quality and, due to limited treatment of the raw milk, serious health risks for humans can occur (Tuberculosis, brucellosis etc.).

There are no large beef cattle farms. Many beef cattle are imported from Eastern European countries, Latin America and Australia; often beef cattle are shipped over large distances. Recently, large feedlots have been established in Ain Sokhna for imported cattle. The import of beef cattle from such countries as Sudan, India and Ethiopia in recent years has meant the introduction of various serious diseases (Lumpy Skin disease, Triple D disease and foot-and-mouth disease) and the quality of the beef of imported cattle is not always high.

Apart from the recently established pilot slaughterhouse in Ain Sokhna, there are few professional, well-equipped slaughterhouses in Egypt. Animals are slaughtered according to Halal procedures.

Small numbers of pigs are kept by Coptic producers (a Copt is a native Egyptian Christian; Islam prohibits pig production). Pigs are housed in the open air or in sheds. Feed resources of pigs consist of uncontrolled waste products, and this generates considerable health risks.

In large farms laying hens and broilers appear to be kept in conditions similar to European practices.

Consequently, similar advantages and disadvantages regarding welfare can be expected. On small farms, laying hens are kept on roof tops or backyards. Until recently the biosafety of laying hen and broiler products was low. Avian Influenza is endemic at the moment and causes serious health risks. Laying hens are not usually slaughtered on the farm itself. Egyptian companies are receiving government support for investment in modern slaughterhouses for broilers.

In Egypt there are only small and medium-sized fish farms, with levels of management which are not very high. The use of fish feed is increasing, replacing the use of no fish feed at all. The water quality of the ponds is poor and this causes health risks. Due to the limited investment and knowledge, harvested fish may be relatively small and of limited quality. Fish are usually slaughtered after onset of death, caused by a lack of oxygen.

Donkeys and horses are used for transport. They may have to work hard and may lack any type of housing or management, and have rationed feed supplies. Slaughtering is normally not performed. Sheep and goats also often lack any form of housing, and management may be of limited quality. The feed resources consist of household waste and grass near irrigation canals.

Ethiopia

Most farm animals are raised by smallholders, who are often living as pastoralists in the Lowlands and use communal and harvested land where animals roam freely. Usually, young children have the task of minding the animals (shepherds). During the day the animals live in the open field or bush, but at night they are often placed in a corral. For dairy cows small stables are sometimes available.

Most animals are slaughtered by their owners (not in a slaughterhouse). Abattoirs that do exist are often old and dirty (birds of prey are usually nearby).

There are 42 million cows, in total, in Ethiopia and they are used for dairy, haulage and meat. Animal diseases are a considerable problem in Ethiopia, including foot-and-mouth disease, Lumpy Skin disease, rabies, Contagious Bovine Pleuropneumonia (CBPP), Bovine Tuberculosis and Brucellosis. Cows serve more or less like a 'bank'. They are used as working animals for ploughing the fields, and for milk and meat. On special occasions some animals are sold, e.g. if people have a slight surplus of animals.

Relatively few pigs are kept (several thousands).

Ethiopia has several local chicken breeds, for both eggs and meat. The animals roam around the house.

Newcastle disease is a problem for poultry farmers at present.

Ethiopia has 20 million sheep and 20 million goats (for milk and meat), and many horses and donkeys (serving as working animals). Animal diseases include foot-and-mouth disease, sheep and goat pox, Peste de petit ruminant (PPR), Lumpy Skin Disease, rabies, Contagious Caprine Pleuropneumonia (CCPP) and brucellosis.

Kenya

The majority of animals roam freely, though many people in semi-urban areas or villages keep one or two cows and practise zero grazing, even on some housing estates. This is not always satisfactory as the stalls are not always kept up to standard and some animals are not given enough food or shelter. Pig breeders have sties with various degrees of hygiene and care. In the villages and slums pigs roam freely and from time to time the veterinary department and the local services round them up and kill them because they are a health hazard. Farmers Choice is the biggest pig breeder and processor and their operation is up to European standards. Sheep and goats mostly roam freely even in urban areas, though some people keep goats in sheds, usually not in the best conditions. Poultry farmers who keep the birds commercially, either for eggs or meat usually use barn housing systems. The KSPCA has not encountered battery cages so far. Many people keep a few free-roaming chickens at home for eggs and meat.

Fish farming is mostly found in Western Kenya and is undertaken by approximately 4,500 fish farmers. The output estimates range between 1,000 - 4,000 metric tonnes per annum (according to the Fisheries Department) most of which goes unrecorded and is used for own consumption or sold locally. Fish farming is not considered to be a major welfare concern as the fish are commercially farmed and there is no by-catch or wastage.

South Africa

The number of dairy cattle kept in South Africa is 1,800,000. Processing of the milk is conducted on site or via regional or local collectors. Many dairy farmers also grow their own feed. Beef cattle are kept outside and in larger numbers than dairy cattle: 11,000,000. Management of farms with beef cattle varies from highly sophisticated to rural and in development.

Pigs are found almost everywhere in South Africa. They are housed both outside and in large pig farms.

The poultry industry provides about 58% of all animal-product protein consumed in South Africa.

The poultry industry is divided as follows:

- The Day Old Chick Supply Industry
- The Egg Industry
- The Broiler Industry

The main method of production is intensive, although extensive and semi-extensive poultry production exists as well. Broilers are grown to slaughter weight in 38 days. Poultry producers face similar welfare problems as broiler producers in the EU.

Despite the above, however, farm managers and other stakeholders in the poultry industry understand the negative relationship between stress and production. Limiting stress, therefore, is in the interest of farmers and workers (who often have production incentives).

In South Africa, abalone, catfish, trout, and koi are farmed in ponds. Approximately 7,000 tonnes of fish are produced annually.

Ostriches are also farmed in South Africa, both for large-scale farming as well as for tourism. They are kept outside and produce eggs, feathers and meat.

3.1.3 *Perceptions of animal welfare in Africa*

Egypt

Animal welfare is not perceived as an issue by the general public. Nevertheless, there are a large number of NGOs active in this field, e.g. Brooke Hospital for Animals, Society of Protecting Animal Rights in Egypt (S.P.A.R.E.), The Egyptian Society of Animal Friends, Egyptian Federation for Animal Welfare, Animal Haven, Egyptian Mau Rescue Organization (EMRO), the Egyptian Society of Animal Management, Cairo SPCA, Port Said SPCA, Rise Veterinary Hospital, and the Society for the Protection and Welfare of Donkeys and Mules in Egypt (SPWDME).

In general, animal transport (e.g. large travel distances by ship for beef cattle) and slaughter pose animal welfare risks. Housing and management conditions are also associated with welfare problems, especially the poor hygienic conditions, (endemic) animal diseases, and the way in which donkeys and horses are treated (see Text box 3.1). Bad welfare conditions for these animals are mostly due to the lack of awareness and low income level of the owners. They need their donkeys daily in order to support their family, and this may result in overworked animals. Educating the owners about simple things like using better harnesses, regular resting periods, providing water and medical care when necessary, can immediately improve the welfare of these animals.

Text box 3.1 Welfare of horses and donkeys in Luxor, Egypt

The problem with horses and donkeys is subscribed by veterinarian Kelly Bowlt, who worked with ACE (Animal Care in Egypt) for a month in 2004.

“ACE provides free veterinary treatment for over 150 animals per day. The shelter has eight large stables, there is a large area for rolling, all animals are showered and offered water. I consider this facility to be the keystone of ACE because it allows people to bring their animals in daily for washing and if a problem is noticed it is dealt with swiftly and discreetly. In this way, the owners are not harassed about the condition of their animals and more readily seek us for help. The showering facility educates the people as to how to care for their animals and I noticed a huge improvement in the condition of the animals since my last visit in 1999 and compared to those areas of Egypt where this facility is not available.

I noticed that the animals were routinely presented with the same problems: wounds, lameness or dental problems. Wounds were usually due to a poorly fitted harness, especially in donkeys. Many owners accepted that the animal must rest until the wound heals, but some animals required hospitalisation. Lameness is a daily burden, with appalling farriery and lack of understanding about foot and leg care.

Education and encouragement is still the way forward and I handed out four rosettes to the best animals (no wounds, good feet, well conditioned, sensible tack). Word travels fast and competition for rosettes encourages good husbandry. I consider it especially important to praise children and prizes of chocolate makes animal health improve dramatically!”

Source: British Veterinary Association, 2008

people generally do not seem to value their animals very highly. This may be due to limited education and poverty within the country.

Until recently the Australian government prohibited the export of live beef cattle to Egypt due to concern about animal welfare conditions in Egypt and slaughtering procedures, but since the pilot slaughterhouse started in Ain Sokhna, Australia has lifted the ban.

Lack of knowledge may also negatively affect the animal welfare situation. Animal Care Egypt, for instance, states that health problems are not always due to purposely abusing animals, but may be based on the use of traditional medicine which is often cheaper than modern medicine (Text box 3.2).

Text box 3.2 The common practice of 'firing'

This animal is a prized possession and firing was not done out of intended cruelty. In Egypt, firing is commonplace - because the uneducated believe in it. It is neither legal nor illegal because it has never been covered by the law.

In essence, firing means the burning with red hot metal of various parts of a horse's or donkey's body and it is a common belief that this will make the animals "strong". Firing is perpetrated by unqualified country people who, misguidedly, believe they are practicing equine medicine. The patients are over-ridden, over-worked, under-fed and under-valued horses and donkeys. These animals are essential for farm workers, but because they are desperately poor with little or no education they turn to what their great-grandfathers believed in, firing, the traditional cure-all. Scientific veterinary practice is largely outside both their understanding and their economic reach. Good diet, humane treatment and regular worming are what is needed. But firing is cheaper.

Source: Animal Care Egypt, 2008

Ethiopia

Animal welfare is not a public or political issue in Ethiopia due to poverty. Ethiopia is ranked at 169 (out of 177) on the Human Development Index (HDI). People seem to lack respect for animals, and may treat animals in a non-friendly way. Hitting animals is a common practice, and animals are often malnourished. There are two well-known NGOs that try to improve animal welfare:

- The Brooke Hospital for Animals (originally an English organisation that stands for a better welfare of working animals such as horses and donkeys)
- International Donkey Protection Trust (IDPT)

Ethiopia has a problem with the prevalence of animal diseases. The country is considering how it can meet the veterinary (health) demands from importing nations.

Kenya

The increased interest at government level has led to some developments concerning animal welfare. The KSPCA pointed out that WSPA (World Society for Protection of Animals) is currently working on a universal declaration on animal welfare that they hope will be ratified by UN member states. In order to be part of this process Kenya has set up a committee, AWAKE (Animal Welfare Kenya), chaired by a representative from the Veterinary Department. Several meetings have been hosted in the eighteen months that the committee has been in existence.

The KSPCA is the only organisation currently lobbying and responding to the issues of cruelty and abuse of animals. It has introduced humane slaughter in abattoirs and many of the busier slaughterhouses are now using captive bolt pistols. These pistols have bullets which explode inside and push a bolt into the animal's skull, thereby rendering it unconscious. In the past, these pistols were rather expensive and therefore hardly used. The KSPCA imports blank ammunition for humane slaughter with captive bolt pistols.

Many new slaughterhouses are being set up, for which the Veterinary Department is issuing licenses without always ensuring, it seems, that there is a stunning box or a humane killing method. Hygiene seems to be its main interest. Although the meat inspectors come to KSPCA to learn about humane slaughter, they do not always seem to ensure that animals are killed humanely. The KSPCA hopes that the new welfare act will address these problems.

The district veterinary officers are now helping the KSPCA teams to realise donkey clinics and take interest in their welfare. Donkey welfare used to have very low priority. There is also the issue of poisoning dogs (even though they have owners) with strychnine. Dogs are only supposed to be poisoned when there is a rabies outbreak, and not to reduce the dog population. It is against the Veterinary Surgeons Act to use strychnine to kill animals under normal circumstances. The KSPCA is lobbying on this subject, and it has plans to start a neutering and vaccinating campaign through AWAKE.

A number of new organisations have been founded recently, dealing with animal welfare. One of them is the African Network for Animal Welfare (ANAW) that is also a member of the AWAKE committee (also see Text box 3.2). Representatives of welfare organisations feel that issues related to animal diseases and sanitary concerns hampering export opportunities seem to receive more attention and interest than animal welfare. ANAW managed to treat, vaccinate and de-worm a total of 3,470 animals (dogs, cattle, pigs, donkeys, cats, sheep and goats) and also separately vaccinated 5,000 sheep and goats against Peste des petit ruminant (PPR) disease in a marginalised East Pokot district. Figures 3.1 and 3.2 show the practice of how animals are vaccinated and how treatment is performed by ANAW.

Several organisations in Kenya are involved in wildlife issues. The most commonly known and active organisation is the African Wildlife Foundation.



Figure 3.1 Dogs (left) and cats (right) are vaccinated against Rabies (ANAW).



Figure 3.2 Vaccinating cattle (ANAW).

According to a number of livestock and fishery stakeholders and government officials there seems to be a trend towards increased awareness and interest in animal welfare issues. Obviously, the issue of safari tourism is also an important economic activity, and plays a major role in Kenya. The Kenya Wildlife Service undertakes strict enforcement of existing anti-poaching laws.

Text box 3.3 ANAW initiatives to improve animal welfare in Kenya

“ANAW (African Network for Animal Welfare) is currently working on a project with Kenyan universities and Animal Health Training Institutes (AHITI). The aim of the project is to introduce animal welfare into the higher education curriculum so as to impact on animal health practitioners, health officers, veterinarians and animal handlers that are trained. Already, a pilot programme on humane treatment of pigs covering the Five Animal Freedoms has gone through its first year.

ANAW together with other animal welfare stakeholders under the ambit of Animal Welfare Kenya have now negotiated a programme with the government that will put the dog baiting and poisoning with strychnine at bay as we implement a three year pilot population control through spay and neuter and anti-rabies vaccination campaigns. Once successful, this programme can then be replicated in other cities and towns in the country. ANAW is now fundraising for the same and hopes to launch a pilot program in September 2008.”

Source: Africa Network for Animal Welfare, 2008

South Africa

Animal welfare is not really an issue for most people in South Africa or the broader Southern African region. South Africa has to deal with many other problems such as poverty in rural and urban areas (hunger), and crime and social development issues.

The welfare of farm animals (cattle, pigs) and laboratory animals receives little media attention but there is some interest in pet animals. Wildlife research is conducted by the World Wide Fund For Nature (WWF) and the International Union for Conservation of Nature (IUCN). The organisations involved in animal welfare are the NSPCA (mentioned earlier under ‘Welfare regulations’) and the International Fund for Animal Welfare (IFAW). Their policy is to cooperate with governments but processes regarding animal welfare regulations are difficult and time consuming. South Africans have a special relationship with nature and wildlife. Elephants, lions and rhino’s, in particular, receive media attention.

Various organisations are gaining more importance and credibility. The NSPCA is developing industry standards to improve animal welfare standards. Moreover, the NSPCA is trying to convince the government to set national standards and regulations to ensure uniformity in the application of legislation nationwide, which can then be enforced by the provincial conservation authorities. According to Christine Kuch (NSPCA), South Africa has excellent animal welfare legislation, but people do not always obey the law and lack of enforcement is considered a problem. “The problem is that South Africa has a few prosecutors, a situation that is worsened by the fact that there is a high rate of staff turnover. You brief one prosecutor on a specific case, and before you know it, he/she has been replaced by another. Also, we have a few courts that could not possibly cope if we prosecuted everyone. Our approach is therefore to educate people to discourage them from ill-treating animals”.

3.2 South America

Information on South America was obtained from contacts in Argentina, Brazil and Mexico. Some background information about these countries can be found in the table below.

Table 3.3 General information on South American countries discussed in this chapter.

Country	Population (million)	GDP per capita (\$)	Climate	Arable land (%)	Main religion
Argentina	40.5	13,100	Mostly temperate	10.0	Roman Catholic 92%
Brazil	196.3	9,500	Mostly tropical	6.93	Roman Catholic 73.6%
Mexico	110.0	12,400	Tropical to desert	12.7	Roman Catholic 76.5%

Source: CIA World Factbook

Table 3.4 Information on 2005 livestock production and export of meat for Latin American countries discussed in this chapter.

Country	Species	Numbers present	Meat export (tonnes)	Meat export to the EU (tonnes)
Argentina	Poultry	95,000,000	117,638	20,434
	Cattle	50,167,000	669,199	92,557
	Pigs	1,830,000	546	0
Brazil	Poultry	999,041,000	3,067,962	67,830
	Cattle	207,156,696	1,650,732	245,484
	Pigs	34,063,934	751,812	9,463
Mexico	Poultry	487,612,000	2,252	0
	Cattle	28,762,626	26,522	2
	Pigs	15,341,917	64,419	0

Source: FAOSTAT (2009)

3.2.1 Regulations

In a 2008 investigation by the OIE, Kahn (2008) sent out questionnaires to 29 North and South American OIE countries, six of which responded. Of these six respondents, 83% (five countries) indicated that they had legislation on animal transportation in place, 100% had legislation on the slaughtering of animals, and 67% on the killing of animals as part of disease control measures. Furthermore, 66% had regulations on stray dog population control. Global averages for these parameters, according to the questionnaire results, are 80%, 76%, 82% and 68%. This means that the scores of the Americas are generally high compared to other OIE member states, except for legislation regarding killing for disease purposes.

As for voluntary schemes, out of the six respondents four had schemes on transport (66%), four on slaughter (66%) and also four on killing for disease control (66%). The Americas have a high score, compared to global averages of 37%, 42% and 37% respectively (Kahn, 2008).

Argentina

Argentina has had general legislation on animal welfare (Bienestar Animal) since 1951. New legislation is being developed by SENASA (the competent authority on food safety and animal health) which will set minimum requirements for animal welfare and offer possibilities of voluntary certification but it was not possible to retrieve further details on this new legislation.

Brazil

Law 9.605/98 is the Brazilian legislation that deals with animal protection and wellbeing (wild and domestic), and provides legal requirements in the Federal Constitution (Baracat et al., 2008). The Constitution recognises that animals have fundamental interests. Clayton (2003) suggests that on the basis of this recognition, Brazil banned popular traditions that involve animal suffering. These include cock fighting, as well as a tradition practised in southern Brazil, known as the Ox Feast (in which crowds of villagers brandishing weapons chase oxen through the streets and inflict blows on them). To monitor compliance with the legislation Brazilian municipalities and states have passed a set of provisions for animal protection against cruelty and neglect. However, animal exploitation is a very profitable industry in Brazil just like in the rest of the world. Clayton (2003) provides a typical example: "Rodeo in Brazil is a million-dollar industry and a very controversial issue. The dispute evolves around whether rodeos are considered a cruel treatment to animals. The federal law requires a veterinarian at rodeo, prohibits electric prods, or similar devices that can cause injury or wound animals. The penalties include fine and suspension of rights. However, this law is not effective in preventing injuries, the penalties are not severe enough to deter abusive treatment, and it is less likely to be strictly enforced. Indeed, the controversy about rodeos is far from being ended [Ed] because some Brazilian legal scholars suggest that this law might be unconstitutional."

Mexico

Currently, Mexico has the following laws and norms dealing with animal welfare:

- Federal Animal Health Law (Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca Y Alimentación, 2008);
- General Law of Ecologic Equilibrium and Protection of the Environment (Secretaría de Medio Ambiente Y Recursos Naturales, 2008);
- Each Mexican State has a local law of animal protection; there is also an "Animal Surveillance Brigade";
- Norm NOM-033-ZOO-1995: "Humane Sacrifice for Domestic and Wild Animals";
- Federal Inspection Slaughterhouses (including procedures and government support);

- Norm NOM-008-ZOO-1994: "Zoo Sanitary Specifications for the Construction and Equipment in Animal Sacrifice Facilities, and those Dedicated to the Industrialisation of Meat Products";
 - Animal Protection Law in Mexico City: which defines welfare as "the state in which an animal has satisfied its health, behavioural and physiological needs in its environment, mainly imposed by the human being".
- There are also national and local laws that relate to laboratory animals.

3.2.2 *Farming practices in South America*

Argentina

Although dairy cattle are kept in Argentina, beef cattle are more abundant. The total number of cattle is estimated at 50 to 55 million heads. Argentina exported about 480,000 tons of beef in 2007. In addition, some 28,000 tons of beef were exported to the EU under the lucrative 'Hilton-Quota'. This quota (currently around 28,000 tonnes of beef) was set by the European Union, and Argentina receives about four times as much money as from regular exports for providing this quality standard. Hilton quota income enables slaughterhouses to invest in first-class facilities. It is government policy to distribute the Hilton quota to as many different meat packers as possible, giving them all a share.

Beef is by far the most important kind of meat and probably the most important food in Argentina. Annual consumption in Argentina stands at almost 70 kg/pp, compared to 28 kg/pp for poultry and less than 8 kg/pp for pork. In 2007, around 14.9 million cows were slaughtered.

Cattle (dairy and beef) live and graze in large areas outdoors. Indoor enclosures are very rarely used in Argentina. Abnormal behaviour is not seen in cattle, and animals seem to be healthy in general. A study by the Instituto de Promocion de la Carna Vacuna showed that animals are usually transported in open trucks, with boards at shoulder height at the side of the truck, and with iron clamps to be able to cover or close the truck. Few trucks used for animal transportation had a double floor (two floors). Multi purpose trucks can also be used occasionally. Broilers are housed in large barns with open sides (if necessary screens can be placed). Laying hens are housed in battery cages.

Argentina has the world's second largest area for organic production (see also Bowles et al., 2005). A large part concerns very remote areas, in Patagonia, for example, where organic production is the only real option. Lamb production is popular there, albeit less than in the past. Lambs are kept outdoors in 'natural' areas. Annually, 1.5 million animals are slaughtered.

Brazil

The country of Brazil is larger than Europe (including Norway, Turkey and the Ukraine). It has several different climatic zones, soil types, populations with different origins, cultures and agricultural systems, and a very unequally divided wealth pattern. Consequently, the variety in farming is also considerable.

Brazil has a herd of over 200 million cows; 180 million for beef production and 20 million for milk production. Beef production is in general rather extensive with herds grazing on wide pastures.

There are three different types of pig farming (with several sub forms in between). In the poorer Northeast subsistence farming is seen, where one or more animals are kept around the house or farm for personal use. The small and medium-sized companies, which offer their products to the regional and local markets, function independently or as cooperatives. Thirdly, there are multinationals such as Sadia and Perdigão which have completely integrated systems for feed, meat production and slaughter. These multinationals serve the largest part of the internal market (186 million persons) and export on a worldwide basis. Moreover, a distinction can be made between husbandry systems with simple open housing and housing systems with climate regulation. In other words, production systems are very diverse in Brazil. Zonderland and Enting (2006) reported on the pig industry in Brazil (see Annex XVIII).

A similar situation applies to poultry. Poultry products are mostly (three-quarter) produced for the local market in Brazil. One quarter is produced for export to the EU, as well as other countries. An article concerning animal welfare in commercial egg production systems describes various aspects of production: the animal, the producer, the consumer, etc. (Da Cunha, 2007; see Annex IX). Dr Helenice Mazzuco, a researcher in Brazil, gives her perspective on this issue (Da Cunha, 2007; see Annex IX). For more information, see the section on poultry meat from Brazil in Chapter 6.

Mexico

Mexico is a country with 544 known mammal species, of which 72 are threatened and 1,026 bird species, of which 57 are threatened with extinction. It also has a wide number of farm animals and around 16 million dogs, of which an estimated 10 million are stray dogs.

Mexico has many backyard producers who keep only a few cattle and only a handful of large high-tech and industrialised producers (± 25%). Most backyard producers keep the animals outside in small pens. Cattle in high-tech farms may have more space per animal.

Specialised feed and climate control is only available at high-tech farms. The other farms depend on the availability of soil, water and feed (grass, for instance). High-tech farms usually have a full-time veterinarian in their employment, and most have good production levels, according to expected planning and controls. This is not the case in backyard farms.

Mid- and low-tech farms usually transport animals on foot (short distances) and in trucks with little space per animal. High-tech farms have specialised transportation with more space. Backyard and some mid-tech producers take their animals to regular or even non-registered slaughterhouses. Other mid- and high-tech producers (and exporters) take their animals to specialised slaughterhouses called "Federal Inspection" (TIF) which are highly regulated and where the conditions are good, in accordance with local and many international rules and regulations.

Similar arrangements apply with regard to pig and poultry farming as described for cattle farming. The pigs in backyard farming presumably have more space than those in intensive systems.

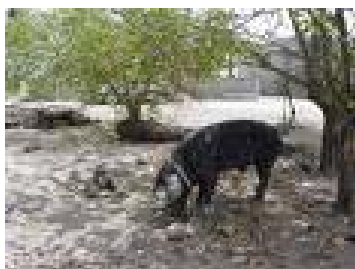


Figure 3.3 Pig in backyard farming in Mexico.

Mexico has many traditional producers with small numbers of fish, and a few specialised fish farmers. Usually traditional producers utilise the area's natural resources. Specialised or high-tech producers have built specialised housing. Only mid- or high-tech producers have professional management, the remaining (many) are small traditional farmers. Again, specialised feed, climate and substrate are only seen in high-tech farms. High-tech farms usually employ a full-time fish specialist or veterinarian.

Most high-tech farms have good production levels. Only high-tech farms transport their animals in adequate tanks or specialised transportation. In most cases, there is no rule or regulation follow-up on slaughtering fish. For more information about aquaculture in Mexico see chapter 5.

3.2.3 Perceptions of animal welfare in South America

Argentina

Argentina's extensive territory makes it eminently suitable for keeping animals; an area of some 100 million ha of grasslands is used for cattle-raising. Argentineans say that their cattle have the best life in the world. This may be hard to dispute, but the situation may be different in the final stages of the animals' life. Transport is one of the areas of concern, as transport facilities are not always adequate and animals often have to travel long distances, but the situation is better for animals slaughtered for export to Europe. Although citizens of Argentina often seem to be unaware of the animal welfare situation regarding transport and slaughter, the National Service for Health and Quality of Agricultural Products (SENASA) has taken the initiative in many ways. It also cooperates with the Argentine Foundation for Animal Welfare (Fundacion Argentina para el Bienestar Animal) (FABA). The head of the section dealing with animal welfare acknowledges that Argentina follows the developments in the EU closely, but stresses that "It would be unfair to say that the EU is the only driving force in this respect". SENASA itself defines five components ('basic liberties') that are based on the Five Freedoms of the Farm Animal Welfare Council (1992), which should guarantee an acceptable animal welfare level.

The Argentinean Institute for the Promotion of Beef has published very detailed technical reports containing Good Livestock Practices. The institute refers to world-wide consumer demands and laws, and makes it clear that there are many economic incentives to improving animal welfare. A number of local and provincial governments have published detailed manuals on how to handle animals, in particular cattle. These manuals are very informative and practical as they refer to common and mostly avoidable malpractices at farm level. In addition, technical colleges pay attention to animal welfare. The average loss per animal due to animal welfare problems was estimated at US \$0.89 in 2005. This inflicted losses of almost \$13 million on the industry in 2004. Other studies, however, mention much higher figures. Some of the findings, based on extensive research in two slaughterhouses, were:

- 36% of all animals had travelled more than 300 km to the slaughterhouse;
- 36% of all animals had waited more than 24 hours before being slaughtered;
- The situation of animals falling or slipping between unloading and slaughter was considered grave;

- In one slaughterhouse, the use of sticks was common;
- The percentage of wounded animals was high in both slaughterhouses: 38% and 58%. It was attributed to falling during transport, careless loading practices and inefficient design of walking ways. Animals that made a stop-over in the central cattle market or other auctions were in worse condition than those that were transported to the slaughterhouse directly;
- Per head, on average more than 400 gram of meat was lost due to unskilful injections (e.g. for foot and mouth disease). Similar losses occurred because of pH levels above 5.9, pointing to stress.

While only few on-farm losses seem to occur, transport may be a problem, and loading and unloading seem to be more critical factors than the distance covered.

During the OIE Animal Welfare Conference in Egypt in October 2008, the results of research were presented in which it was claimed that better handling of animals results in an extra production of 14,200 tons of beef, valued at US \$28 million

Regulations are not always enforced effectively in Argentina. The current law originates from 1954 and is very general in nature. The new law (with more quantitative figures) should come into effect at the end of 2008 or the beginning of 2009.

At present, citizens of Argentina are not aware of the fact that the transport and slaughter of animals regularly take place under harsh conditions. Economic losses are the main focus with regard to animal welfare. Economic benefits are perceived as a major factor that could lead to an improvement in animal welfare; treating animals better will increase income. SENASA organises courses on animal welfare, which focus on and explain the economic damage of not abiding by simple rules, but it is not authorised to issue reprimands. It is only able to try and guide the farmers in the right direction, but it is authorised to monitor animal transport.

An even bigger window of opportunity arises when there is a possibility of export to Europe. Argentine beef has a positive image in the world. European consumers have no difficulty in conjuring up attractive images of the pampas (the fertile South American lowlands) and gauchos (residents of the South American pampas, Chaco, Patagonian grasslands). The trade sector is particularly willing to capitalise on this image, including the promotion of animal welfare aspects. It is the economic incentive that will drive the industry; moral considerations play a lesser role.

Brazil

Animal welfare is not perceived as an issue in Brazil. Little if anything is heard or read about it. Many Brazilians are more concerned about their own survival. The agri-business in Brazil mainly produces in large quantities and Brazil is one of the largest producers and exporters of beef and poultry meat in the world. Animal welfare is a topic to a greater or lesser extent only when export to the EU is concerned. The president of the Brazilian Chicken Exporters Association (ABEF) said last year: "We (can) supply whatever the EU asks us to supply". Recently a decision was taken in the EU to lower the total number of broilers per m² to 21 (resulting in a maximum of 42 kg/m²). In Brazil there are no regulations on the density of broilers. Due to the warm climate, Brazilian farmers keep broilers at a relatively low density of approximately 35 kg/m² (Horne and Achterbosch, 2008). Brazil has a most competitive animal production system economically (abundance of land, feed and water, and well-trained staff).

About a year ago, the BRAZ Government Gazette (Diario Oficial) reported that the Minister of Agriculture, Stephanes, had established a technical committee concerning animal welfare. The commission will conduct studies about animal welfare in different types of farming industries. It is the first attempt in Brazil for the government to focus on animal welfare, but it is not clear what will be done with the outcomes of the studies. At national level and in public, animal welfare does not seem to be a subject that is attracting much attention. Brazil is a major exporter of beef and poultry meat and probably also of pig meat in the future. In particular, the (well-paying) European market is considered to be more and more important as an export market, although this does not imply that animal production is performed mainly for export. The largest part (about three-quarters) of the Brazilian animal production is still intended for the local market.

Despite the fact that exports to the European market are increasing awareness of animal welfare, it remains on the whole a relatively unimportant issue at this time since most production (three-quarters) is for the local market.

Mexico

Animal welfare in Mexico is hardly considered to be an issue, probably due to a number of reasons.

As far as culture and education are concerned, there is a lack of concern for animals, little education on animal handling and traditional events based on abuse of animals are widely accepted. Examples include practices involving pulling animals and bullfights (see Figure 3.4), cockfights, zoos and circuses where animals appear to be mistreated or are living in unhealthy conditions.

From an economic point of view, animal welfare involves extra costs for many companies, such as adequate facilities, adequate feed and veterinary services, transportation and, whenever necessary, certification. For farm

animals, it also involves the selection of certified slaughterhouses. Although these practices can be positive both for the farmer and the animal in the long term, in most small (backyard) and middle production areas, these practices are often put to one side to "save" expenditure. This may result in animal abuse, suffering and stress (in mixed animal pens, overloaded transportation (see Figure 3.5) and municipal non-registered slaughterhouses). In a country with such a high poverty level (13.8% according to The World Factbook) many people (including the government) do not give enough priority to these issues (protection of the environment and animal welfare). Political parties, local NGOs, international pressure and bilateral agreements (internationally) have helped to establish more regulations on environmentally-related issues. These laws have improved animal conditions both at state and national level and introduced enhanced sanitary conditions (Federal Animal Health Law).



Figure 3.4 Left: "Charrería" is considered a traditional sport and an art in Mexico. It demonstrates many horse stunts, some of them involving roping and pulling of calves. Right: Mexico adopted the Spanish tradition of bullfights or "toros", which is a man-to-bull battle.



Figure 3.5 Transportation of farm animals represents a welfare risk, related to such conditions as crowding and cage structures

There is no direct media attention for farmed animals. In contrast, there is certification or labelling to ensure human health (also concerning meat trade and export for economic reasons). The government (Ministry of Agriculture) is the only organisation involved). There is a Federal Animal Health Law, and there are derived norms, and sanitary requirements for the import of cattle products.

Laboratory animals receive media attention mainly through NGOs (locally and internationally) and there are both national and local laws with regard to their use. Certain products are certified to be free of the use of laboratory animals in research and production.

Pet animals also receive some media attention, mainly through NGOs. Certain pet shops have international or national certification for the quality and legal handling of the pets they sell. Organisations involved are NGOs, the government, and local associations, and there are national and local laws in place for pet animals. In addition, the national budget considers a share for the ministries that handle animal issues.

Wild animals (e.g. lizards, snakes, small mammals, deer, whales, dolphins, birds, wild cats and wolves) attract media attention on television, radio, printed matter and the internet. There are discussions in the media, and involvement of political parties in Congress. Mexico complies with international organisations to promote wild animal protection, in its laws and regulations. Local and international NGOs apply to the government and the

Green Party ('Partido Verde') for wild animal protection, and local associations deal with the subject of wild animals.

The perception of consumers is usually limited to obtaining the final product at a fair or inexpensive price and at their expected level of quality, with little regard for welfare problems during slaughter or research practices. Pets are sometimes regarded as a "second class" family member, and in some cases a burden on the family's time, resources and even physical area. Some pets (and stray dogs) live in the backyard, others on roof tops sometimes receiving little attention. Citizens also visit entertainments such as "charrería" (see above) frequently. In many cases, families do not criticise these practices, and continue paying for them. Abuse of farm animals or wild animals in zoos is rather common, and the legal consequences few. On the other hand, there are also very sensitive citizens and consumers involved in animal welfare issues. Some are helpful to NGOs by giving aid to animal shelters, for example. In Mexico there is very little criticism in the media concerning animal welfare. Major driving forces of current farming practices in Mexico affecting animal welfare include hunger, economy, the need to export, lack of knowledge of alternative measures, education, perception of animals as inferior and climatic conditions. International agreements (including free trade agreements) and political pressure (political parties, NGOs, private sector) may also affect the existence of regulations regarding animal welfare in Mexico. Reasons for the fact that there are no regulations (in certain cases) include a lack of resources for elaborate laws and regulations, a lack of budget to implement these regulations and penalise those who violate these laws, and insufficient funds available to maintain animal facilities and keep an ongoing surveillance team.

There are several mismatches between practices, regulations and perceptions regarding animal welfare in Mexico. The reasons for these are:

- Lack of enforcement of laws and regulations;
- Need for more comprehensive and coherent laws (not all laws are the responsibility of the same ministries or apply to the same physical areas, different authorities are involved, each acting with a limited remit);
- Need for education to make laws and practices known and respected;
- Most of the population, including authorities, unfamiliar with prosecution procedures ;
- Prosecution procedures sometimes too complex ;
- Bureaucracy;
- Local and regional authorities insufficiently empowered to regulate these issues.

There are changes and trends visible or predictable concerning animal welfare and a growing concern about animal welfare among authorities, organisations, veterinarians and other animal-related entities. This will lead to an improvement of animal welfare legislation and an effort to succeed in implementing and reinforcing the rules. This is a long process, however, including efforts based on improved animal health, compliance with international rules and regulations, reduced export limitations and sustainable farm management.

3.3 North America

For North America information was obtained from Canada and the USA. Some background information about these countries can be found in the table below.

Table 3.5 General information on North American countries discussed in this chapter.

Country	Population (million)	GDP per capita (\$)	Climate	Arable land (%)	Main religion
Canada	33.2	38,600	Temperate to arctic	4.6	Roman Catholic 42.6%
USA	303.8	45,800	Mostly temperate	18%	Protestant 51.3%

Source: CIA World Factbook

Table 3.6 Information on 2005 livestock production and export of meat for Latin American countries discussed in this chapter

Country	Species	Numbers present	Meat export (tonnes)	Meat export to the EU (tonnes)
Canada	Poultry	160,000,000	135,430	852
	Cattle	14,925,000	547,834	3,268
	Pigs	14,810,000	982,596	1,538
USA	Poultry	2,035,000,000	2,881,160	200
	Cattle	95,438,000	295,025	31,253
	Pigs	60,975,000	1,016,271	6,807

Source: FAOSTAT (2009)

3.3.1 Regulations

The Americas in general have a higher score to other OIE member states regarding the existence of animal welfare legislation, except for legislation regarding killing for disease purposes. The same applies to voluntary schemes (Kahn, 2008). Please refer to the previous paragraph on South America for details.

Canada

At federal level, legislation on animal welfare is limited in Canada, and the intensity of welfare legislation in Canada is less than in the EU (Jongeneel et al., 2007). The website of the Canadian Food Inspection Agency, which is responsible for enforcement, gives an overview of animal welfare legislation in Canada (Canadian Food Inspection Agency, 2008).

The federally regulated topics in Canada concern animal welfare during transport (Health of Animals Act), slaughtering (Meat Inspection Act) and the Criminal Code of Canada (section 446), which is directed against cruelty towards animals.

Every province in Canada has legislation about different aspects of animal welfare regarding farm animals and pet animals. These rules are commonly very general, but sometimes more specific regulations have been set. From a local perspective, animal welfare aspects of (keeping) pet animals receive a great deal of attention. An overview of legislation per province can be found on the internet (Canadian Food Inspection Agency, 2008).

USA

The United States of America have little legislation on animal welfare at federal level (Jongeneel et al., 2007). An overview of the legislation is given below:

- The Twenty Eight Hour Law from 1873 about animal welfare during transport (Animal Legal & Historical Web Center, 2008). The statute provides that animals cannot be transported by "rail carrier, express carrier or common carrier" (except by air or water) for more than 28 consecutive hours without being unloaded for five hours for rest, water and food. As of 2006 trucks are also included in this law.
- The Farm Bill from 1996 (Federal Agricultural Improvement and Reform Act 1996) contains standards for the transport of slaughter horses (the slaughtering of horses for human consumption is very controversial in the US).
- The Humane Methods of Slaughter Act originates from 1901, but was amended in 1958 (Animal Legal and Historical Web Center, 2008) and consolidated in 2007 (Office of the Law Revision Counsel, 2008).
- There is also an implementation law USDA/FSIS (Food Safety and Inspection Service, 2008). This law is not applicable to poultry. It has been under discussion recently, because of weak or poor animals, possible BSE cows, ending up in the slaughter line and therefore in the human food chain. As a consequence, this implementation law will probably be adopted.
- The Animal Welfare Act from 1966 (National Association for Biomedical Research, 2008) oversees the welfare of laboratory animals.

At state level the USA has legislation to prevent cruelty to animals. Since autumn 2007, dog- and cockfights have been illegal in all States (except in the territories of Puerto Rico). Also issues like dangerous dogs are regulated at state level. In several states the punishment for cruelty to animals has been tightened or is currently under revision. In 25 (of the 50) states, farm animals are excluded from these law, and in 30 states the "normal" farm practices are excluded from these laws. However, many voluntary codes exist (see Annex XVII)

During elections referenda are also held that cover certain animal welfare matters for the state. Due to these referenda it is now prohibited to tether sows and keep calves in crates in several states. In California the production of *pâté de foie gras* has been prohibited since 2004 and in Chicago the sale was illegal, but has recently been allowed again.

At the 2008 presidential elections (Nov. 4) more than 60 % of Californians voted for 'Proposition 2' of the referendum on animal welfare. The proposition, which will not become law until 2015, requires that all farm animals, "for all or the majority of any day", not be confined or tethered in a manner that prevents an animal from lying down, standing up, turning around or extending its limbs without touching another animal or an enclosure such as a cage or stall. It specifically addresses modern cage housing for hens and stalls for sows and veal calves. It carries criminal penalties for violations, including fines and jail terms.

Moreover, at state level and even more at local level there is a lot of attention for pet animals, both at policy and regulatory levels. The state New Jersey is, according to present knowledge, the only state with animal welfare legislation that concerns all animals. This includes minimum requirements regarding "humane raising, keeping, care, treatment, marketing, and sale of domestic livestock" (Michie's Legal Resources, 2008). This state is also the most advanced with regard to policy and rules concerning the animal welfare of pet animals, placed under the New Jersey Ministry of Public Health (Department of Health and Senior Services, 2008).

3.3.2 Farming practices in North America

Canada

The Canadian egg industry produces table eggs, enzymes, breaker eggs and processed foods.

Canada is one of the major exporters of fish in the world, from the Atlantic fishery, Pacific fishery and aquaculture sector.

USA

During the last 100 days of their life, beef cattle are fattened in feedlots. A new way of fattening is the grass fed cattle, which are fattened in the pasture. Farming practices in the US have been described in HSUS (2006, see Annex XVII). Farrowing sows are often tethered. Last year Smithfield Foods decided to ban gestation crates for pregnant sows (Smithfield, 2007).

Laying hens are often kept in battery cages. In Sections 6.1.2 and 6.2.4 the welfare of poultry in the USA is discussed in more detail.

3.3.3 Perceptions of animal welfare in North America

Canada

In Canada the government and other organisations are active in animal welfare and mostly in setting voluntary guidelines and 'best practices', in which the National Farm Animal Care Council plays a central role (see The National Farm Animal Care Council, 2008). Consumer awareness about animal welfare is increasing in Canada (see also Canadian Food Inspection Agency, 2008).

USA

Beef cattle in feedlots are kept under crowded conditions and this is not the best situation for animal welfare (Bracke et al., 2008). A new system is the grass-fed system providing meat labelled as 'grass fed' in the supermarket and the main reason for its introduction concerns profits in the market. Consumers buy this meat because of differences in taste and health reasons, and not primarily for animal welfare benefits.

Where pigs are concerned, confinement housing is an issue. Recently, the largest USA pork producer Smithfield decided to phase out all stall housing for pregnant sows, and convert to group housing (Smithfield, 2007).

Moreover, the welfare debate in the pig industry seems to concentrate on the animals' health status.

Laying hens in battery cages are a particular focus of discussion, not only about the amount of space per animal, but about the system as a whole. In each state referenda are encouraged, and the states must act according to the results. There are few legal requirements, but the market, in particular, is responding to pressure from animal protection organisations. For instance, the United Egg Producers have adopted several regulations regarding laying hen husbandry. In economic terms, the cheaper supermarkets do not sell eggs from free range hens, but the more expensive supermarkets do. The welfare of broilers is not considered to be a public issue and some supermarkets even sell 'vegetarian eggs' (see Figure 3.6). This refers to that fact that the hens have been fed a vegetarian diet. It is not advertised as an animal-welfare product.



Figure 3.6 Vegetarian eggs sold in a major supermarket in Florida. Welfare appears not to be as much an issue as food safety. These eggs are advertised primarily for being produced on all-natural vegetarian feed, i.e. without hormones, antibiotics and animal products, and not from an animal-welfare perspective.

Laboratory animals used for cosmetic testing receive a great deal of attention. Consumer awareness about animal welfare is increasing in the US. Companies which have direct contact with the consumer increasingly use animal welfare as a topic to position themselves in the market. It has to be stressed, however, that North American companies are far behind the developments seen in Europe, especially in the UK. The 'high-end' supermarket-chain Whole Foods Market (with a wide range of organic products) appears to be the most developed company in the US. Its total turnover was recently six billion US dollar. The establishment of Whole Foods Market in the UK (High Street Kensington in London) sells meat that is graded much higher in the UK by their own system and concerning animal welfare (grade 4 on a scale of 5) compared to Whole Foods Market in the United States (grade 2). All meat from Whole Foods Market is produced without any use of (natural growth) hormones and antibiotics (unless it is therapeutic). This type of meat is increasingly being seen in other stores as well. The biggest supermarket chain Wal-Mart is also setting minimum requirements for its suppliers. The fast food chain McDonald's has started to take an active interest in the way animals are slaughtered before they are processed into burgers, and in the welfare of chickens that are later processed into chicken nuggets. It has an external advisory committee on animal welfare, and has set up strict rules for its suppliers (Blanco-Traba, 2009). Other fast food chains are following suit.

Several horizontal organisations have joined in, for instance the Food Marketing Institute (FMI) and the National Council of Chain Restaurants (NCCR). Each of them has a set of (minimum) guidelines for animal welfare. Other organisations have followed, for instance:

- **The American Meat Institute** (interest groups for the meat processing industry) with guidelines and voluntary check ups for slaughterhouses;
- **The American Sheep Industry Association** with guidelines;
- **The American Welfare Institute**, an organisation that has set voluntary guidelines for "animal friendly standards" for keeping farm animals on family businesses (which are usually smaller farms);
- **The Humane Farm Animal Care**, a NGO that works with "certified humane raised and handled"-norms for an important number of farm animal species, they are ISO certified and products are labelled as such;
- **The American Humane Certified** (NGO) programme, which works with detailed norms certified by a third party for the most important farm animals and whose the products are labelled as such;
- **The Milk and Dairy Beef Quality Assurance Program**, destined for the dairy industry, with guidelines for "caring for dairy animals", self-evaluation and voluntary labelling;
- **The National Cattlemen's Beef Association** (the most important interest group for the beef sector) with voluntary guidelines for keeping beef cattle in an animal friendly way;
- **The National Chicken Council** (the most important interest group for broilers) with voluntary guidelines and a voluntary inspection for keeping broilers in a welfare-friendly way;
- **The National Organic Standards** for all husbandry with a labelling programme, controlled by the American Ministry of Agriculture. It includes some norms about animal welfare (besides mostly organic agricultural norms);
- **The National Pork Board** (the most important interest group for the pig meat industry), which has a self-study and education programme for pig welfare (an inspection programme is being developed);
- **The United Egg Producers** (the interest group for the laying hen industry) with animal welfare guidelines for hens in batteries, certification (by third parties) and a labelling programme.

The term “animal welfare” is being used more and more in the United States. This is not achieved by political attention specifically, but more by several animal protection organisations who have raised this subject. An important role is played by the Humane Society of the US. They have a budget of approximately 30 million dollar per annum, mostly received from memberships and grants. The Humane Society organises referenda and uses pressure via legal options, forcing local governments to act. Recently, they revealed a video of badly treated weak (downer) cattle at a Californian slaughterhouse (The Humane Society of the United States, 2008), which created concern for food safety (BSE) and a large meat recall. New Jersey has set an example in environmental issues and is also taking the lead in animal welfare issues. The other states have minor legislative differences, but in general they are not very different from each other.

A recent report with potential impact on the US's farm industry explicitly condemned intensive confinement systems:

“The Commission believes that the most intensive confinement systems, such as restrictive veal crates, hog gestation pens, restrictive farrowing crates, and battery cages for poultry, all prevent the animal from a normal range of movement and constitute inhumane treatment (...) Growing public awareness and concern for the treatment of food animals has brought increased demands for standards to ensure at least minimal protection of animal welfare. These demands have been expressed through pressure on retail and restaurant operators for standards that can be audited and certified. The Commissioners believe that the demand for such standards will increase in the next several years and that it will be incumbent upon meat, poultry, egg, and dairy producers to meet that demand and demonstrate that food animals are treated humanely throughout their lifetimes, up to and including the method of slaughter.” (p. 38, PEW commission, 2008).

3.4 Asia

For Asia information was obtained from China, India, Japan, Malaysia and Singapore, Philippines, South Korea, Russia, Thailand and Vietnam. Some background information about these countries can be found in the table below. For further background information on animal welfare in Asia see Rahman et al (2005).

Table 3.7 General information on the Asian countries discussed in this chapter.

Country	Population (million)	GDP per capita (\$)	Climate	Arable land (%)	Main religion
China	1,330	5,400	Extremely diverse	14.9	Daoist, Buddhist
India	1,148	2,600	Varies from tropical monsoon in south to temperate in north	48.8	Hindu 80.5%, Muslim 13.4%
Japan	127.3	33,500	Varies from tropical in south to cool temperate in north	11.6	Both Shinto and Buddhist 84%
Malaysia	25.3	14,500	Tropical; monsoons	5.5	Muslim 60.4%, Buddhist 19.2%
Singapore	4.6	49,900	Tropical	1.5	Buddhist 43%, Muslim 15%
Philippines	96.1	3,200	Tropical marine; monsoons	19	Roman Catholic 81%, Muslim 5%
South Korea	48.4	25,000	Temperate	16.6	Christian 26%, Buddhist 23%
Russia	140.1	14,800	Variable (steppes to sub arctic)	7.2	Russian Orthodox 15-20%, Muslim 10-15%
Thailand	65.5	8,000	Tropical	27.5	Buddhist 95%
Vietnam	86.1	2,600	Tropical south, monsoonal north	20.1	No religion 80%, Buddhist 9.3%

Source: CIA World Factbook

Table 3.8 Information on 2005 livestock production and export of meat for Asian countries discussed in this chapter

Country	Species	Numbers present	Meat export (tonnes)	Meat export to the EU (tonnes)
China	Poultry	4,297,343,000	476,659	1,424
	Cattle	115,603,523	78,263	4
	Pigs	488,811,978	484,367	610
India	Poultry	475,000,000	889	15
	Cattle	180,837,000	460,559	6,544
	Pigs	14,000,000	429	27
Japan	Poultry	265,200,000	2,104	0
	Cattle	4,402,000	583	2
	Pigs	9,600,000	426	1
Malaysia	Poultry	185,000,000	5,998	6
	Cattle	801,000	3629	0
	Pigs	2,168,000	1306	15
Singapore	Poultry	2,600,000	11,890	0
	Cattle	200	2,857	0
	Pigs	250,000	2,231	26
Philippines	Poultry	136,001,000	0	0
	Cattle	2,489,100	0	3
	Pigs	12,139,690	214	5
South Korea	Poultry	109,628,000	0	0
	Cattle	2,298,000	1,686	0
	Pigs	8,962,000	0	234
Russia	Poultry	328,707,000	10,464	6
	Cattle	22,987,700	10,878	20
	Pigs	13,412,770	16,151	19
Thailand	Poultry	187,371,000	410,820	119,653
	Cattle	5,609,790	2,583	10
	Pigs	7,533,690	10,503	0
Vietnam	Poultry	153,937,000	5	0
	Cattle	5,540,700	673	0
	Pigs	27,434,895	14,080	0

Source: FAOSTAT (2009)

3.4.1 Animal welfare regulations

Kahn (2008) sent out questionnaires to 28 Asian, Far Eastern and Oceanic countries. A total of 13 responded. Of these 13 respondents, 77% (ten countries) indicated that they had legislation on animal transportation in place, 77% had legislation on the slaughtering of animals, and 69% for killing animals as part of disease control measures. Kahn (2008) also reports 62% had regulations on stray dog population control. Global averages for these parameters, according to the questionnaire results, are 80%, 76%, 82% and 68%. This means that generally the group of countries interviewed had a slightly lower than average score compared to other OIE member states. However, please note that the questionnaire included more countries than just the group discussed in this chapter.

As for voluntary schemes, out of the 13 respondents five had schemes on transport (38%), seven on slaughter (54%) and five on killing for disease control (38%). The Asian countries studied scored an average rating compared to global figures of 37%, 42% and 37% respectively (Kahn, 2008).

China

There is no legislation concerning animal welfare or how to transport animals. Regulations for hygiene, however, are being developed. People in China want fresh meat, and fresh often means that the animal is still alive when sold to the consumer. The keeping and selling of live animals for meat in urban areas will be prohibited, as well as promoting their slaughter. There are some regulations on catching, overfishing and protecting the ocean floor for aquaculture, and sea fishery in particular (see Annex X). There is also legislation to protect wildlife and national parks.

India

India has several independent states. Companies have to comply with some requirements regarding public health, but animal welfare is not regulated. It is 'not done' to hunt wild animals in India. In earlier times, tiger hunting was a national sport of the elite. Nowadays, hunting is almost completely prohibited by legislation. The Wildlife Protection Act of 1972 contains a broad set of rules to protect wild animals and plants, and legislation has also been adopted to protect a large number of national parks. The law forbids the killing of animals in India (except Jammu and Kashmir).

Japan

Japan has very little legislation on animal welfare. The Protection and Control of Animals (1974) law contains provisions and standards for the general protection of animals.

Malaysia and Singapore

Legislation is in place against the illegal wildlife trade. There are no regulations about animal welfare.

Philippines

Animal welfare in the Philippines has been dealt with at various levels and in various ways. As early as the sixteenth century, government control on animal diseases was established and institutionalised, in particular, on the system of slaughter and meat inspection. Such a system continued during the American rule from 1898 and eventually led to the passage of an act creating the Philippine Society for the Prevention of Cruelty to Animals in 1914. In 1930, the Bureau of Animal Industry was established to address the concern of the animal industry in general. By 1991 under the Local Government Code (RA no. 7160, section 489 Article 19 Title IV), the appointment of a veterinarian officer was deemed mandatory, whose specific function was to enforce all laws and regulations for the prevention of cruelty to animals. Nowadays, there is also the Philippine Animal Welfare Act of 1998 (RA no. 8485) with implementing rules and regulations (IRR).

Wildlife is regulated by the Republic Act 9147 otherwise known as the "Wildlife Resources Conservation and Protection Act" or simply known as "Wildlife Act" (signed into law on July 30th 2001). The Wildlife Act aims to conserve and protect wildlife species and their habitats, to promote ecological balance, and enhance biological diversity; regulate the collection and trade of wildlife; pursue, with regard to the national interest, the Philippine commitment to international conventions; and initiate or support scientific studies on the conservation of biological diversity. This Act applies to all wildlife species found in the Philippines, including exotic species which are subject to trade, are cultured, maintained and/or bred in captivity or propagated in the country. The implementing agencies are:

- Department of Environment and Natural Resources (DENR): for terrestrial plant and animal species, all turtles, tortoises, wetland species, including water birds, crocodiles and all amphibians;
- Department of Agriculture (DA): for marine and aquatic resources;
- Palawan Council for Sustainable Development (PCSD): for all wildlife species (terrestrial and marine/aquatic resources) found in the Province of Palawan.

South Korea

The Animal Protection Act was passed in 1991, and revised in 2006 and 2008. The Act focuses on pet animal management, e.g.:

- Dog owners should attach a dog tag, register the animals, and not abandon them;
- Sellers of animals should be registered;
- Prohibition of cruelty to animals;
- Animal preservation and observation;
- Establishment of animal experiment and ethics committee.

Another law concerning animal welfare is the 'Eco-friendly agriculture upbringing law' (eco-friendly livestock products certification standard) made in 1997. This law contains some provisions on animal welfare for organic animal products:

- Livestock densities;
- Outdoor access;
- Feeding requirements.

Russia

Russia has no legislation on animal welfare or on wildlife management. However, attention is given to endangered species, mainly concerning popular animals like Siberian tigers, jaguars and bears and legislation is also in place to protect human health and food safety. There is no specific legislation on transport distances and/or resting

places for animals being transported within the country. For imported animals legislation prescribes a 'resting period' at the borders before being transferred into the country. This is primarily a quarantine measure, but may also have some welfare benefit.

Thailand

The livestock industry is regulated through the Department of Livestock Development (DLD). This body is responsible for quality control and has issued a number of standards for animal health, farm management and the environment. The tenet behind these standards is to guarantee standards of hygiene, animal welfare and other aspects, and to offer added-value for domestic and international markets (as required by importing countries, especially in Asia and the EU).

Thailand has a two-standard market where high-quality products are destined mainly for export while the domestic market has products with a wide range of qualities. For export, Thai swine, poultry and cattle producers must follow the regulation for the farm standard issued by the Ministry of Agriculture and Cooperatives (MOAC) of 3 November 1999, which established the Farm Standard in compliance with the EU's White Paper on Food Safety and Directives on Animal Welfare. For the domestic market farm standards are voluntary.

The MOAC standards contain two aspects relevant for animal welfare:

- The criteria of the standard of livestock farming;
- The manual/handbook to achieve the farming standard.

Since then (1999), animal welfare has made its way onto the national agenda, which has resulted in more legalisation. In practice animal welfare has been implemented by the relevant agencies for years but mostly on a voluntary basis. Although more attention is given to the welfare of poultry, swine and dairy cattle by legal enforcement, the law is only imposed on all stages of the chain for poultry (broiler and duck) producers. All procedures fall under three Notifications:

- Welfare of rearing on farm;
- Welfare of transporting from farm to the slaughterhouse;
- Welfare at the slaughterhouse.

The Farm Standard is based on the "Good Agricultural Practice (GAP). It covers the appropriate withdrawal times of pharmaceuticals, environment-friendly waste management and follows national and regional disease monitoring (biosafety management) and traceability. Certification by the DLD is in place to ensure product safety and animal welfare standards.

Thailand is also under a two-standard regime for slaughterhouses. For broilers, a modern slaughterhouse designated for the export sector was built about two decades ago and modern slaughterhouses have also been serving a substantial part of the domestic market for about a decade. Slaughterhouses for swine are not always certified for export by the DLD.

Animal diseases have caused problems for livestock farmers, the industry and consumers. The government collaborates with international organisations such as the International Epizootic Office (OIE), neighbouring countries and the region to control animal diseases. As part of this collaboration, import and export inspections and quarantine procedures are carried out. The government tries to improve the monitoring and enforcement of legislation, its objective being to ensure that local consumers and consumers in export markets get a guaranteed quality according to set standards.

Vietnam

Vietnam has no legislation on animal welfare.

3.4.2 Farming practices in Asia

China

China has a large variety of farming and management methods. There are large and small farming enterprises, about 30% of which comprise large (professional) companies. Large pig and poultry companies appear to be comparable to Dutch enterprises: large barns are used and poultry are often housed in groups instead of batteries. Breeding and rearing is performed by the same company. Small farms often have a small number of several farm-animal species (e.g. cows, poultry, and pigs) around the house.

Aquaculture is widely practised in China. There is a large variety in farmed species (e.g. whitefish, shrimp, and crab). Most fish is farmed for local use as seafood, which is consumed in large quantities. The scale and method of aquaculture varies substantially (see also Annex XIX for a CIWF-report on animal welfare practices in China).

India

Animal farming systems are not very intensive, and animal diseases are common. In the Hindu culture a taboo exists on causing the flowing of blood. Cows are regarded as sacred in the Hindu culture, and slaughtering cows is forbidden. In contrast, the domestic water buffaloes are slaughtered for consumption by Muslims.

Higher castes and Muslims do not eat pig meat, but pigs are occasionally consumed by lower castes. India lacks an organised pig-husbandry. Pigs roam around on garbage fields, flooded lands and in villages and seem to be partly wild.

Laying hens frequently roam freely. Poultry may be housed under free-range conditions (in warmer regions) and in battery cages (in colder regions). Beak trimming is practised. Broiler meat is mainly (95%) sold at so called “wet markets” where they are sold alive and slaughtered on local markets. Production mainly focuses on local markets and only 5% is processed in abattoirs. More information about laying hens in India is provided in Section 6.1.3. India has a variety of aquaculture practices including sea fishing (mainly shrimp) and fresh water production (especially tilapia).

Philippines

Dairy cows are sometimes kept in large numbers on cooperative farms but usually they are kept in smallholder operations. All animals are branded, but no other mutilations are practised during farming. Normally wet feed (sun or air dried grass and legume) is provided to the cows by “cut and carry” and also (dry) concentrates are given. Care for the animals is provided on an individual basis. Several health problems do exist such as hemorrhagic septicaemia, mastitis and parasites. Officials from the Department of Agriculture (DA) or Local Government Units (LGU) visit the farms for health inspections. The cows have offspring every eighteen months, which is mainly achieved by artificial insemination. Cows are mostly transported by walking them to their next housing, except for slaughter where they are taken to the city or to a municipal slaughterhouse.

Beef cattle are often kept extensively in large numbers. Intensive farms have barns, corrals and chutes.

Mutilations including castration and dehorning are practised. Development of farming practices focuses on large quantities and feedlot systems, not on backyard systems. Hemorrhagic septicaemia and parasites are common, and the Department of Agriculture (DA) or Local Government Units (LGU) may visit the farms. Beef cattle are brought to a slaughterhouse in the city or to a municipal slaughterhouse.

Pigs are mostly kept in backyards, but some farmers use a more intensive system. On-farm interventions, like castration and teeth clipping, are practised. The animals are fed a dry feed or they are fed with cooked swill in backyards. At least ten piglets per litter are born, and sows farrow three times every two years with the aid of artificial insemination. Some health problems exist in the pig husbandry such as iron deficiency, Hog Cholera and parasites but the animals are usually vaccinated for diseases. The farms are visited by personnel from the Department of Agriculture, Local Government Units or by a private veterinarian.

Poultry is kept in intensive systems on a medium scale (contract). The housing of the hens and broilers is owned or leased or rented by the farmers. Often dry feed is used and obtained from a supply company. Poultry may suffer from Newcastle disease and parasites and is also vaccinated for diseases. For slaughter, the layers and broilers are brought to a processing plant.

Fish are farmed inland or in bay operations. Farming inland occurs in aerated pools, and nets are used when fish is farmed in bays. Often dry feed or algae are used as feed. Some preventive measures are taken with regard to health aspects. More information about aquaculture in the Philippines is provided in Section 5.4.3.

Ostriches, goat, and sheep are also kept for farming purposes, and are usually housed in small-scale structures. Feed resources are originally wet (air/sun dried grass and legume) with a dry feed supplement. Newcastle disease is also a common problem in ostriches, while sheep and goats can suffer from hemorrhagic septicaemia, just like cattle. Parasites can be a problem as well. Animals are usually transported by animal handlers (walked), and slaughtered in the slaughterhouse of the city or municipality. There is also duck and turkey farming.

Malaysia and Singapore

Dairy cows are difficult to manage in the humid tropics and facilities are somewhat outdated, although some attempts are being made to upgrade husbandry systems. Practices in slaughterhouses are basic and traditional and Halal slaughtering is also a regular practice. In rural areas a lot of hand slaughtering still takes place. . There is no pig farming in Singapore, where it has been banned since 1989. Presently, no transportation of live pigs along public roads is allowed. In Malaysia there is some pig farming ($\pm 40\%$ of the population is not Muslim). Male piglets are castrated. Most pig farms are small, but there is a new trend to set up pig farming areas (PFA) in secluded settings; five have been designated. PFAs are highly regulated with high biosafety and environmental standards.

Commercially farmed poultry is generally housed under basic conditions (in battery cages). Beak-trimming is not practised. A regulatory framework was set in place by the Veterinary Services of Malaysia and Singapore for poultry farming in closed housing practices.

The tropical aquarium fish industry is gaining in importance. Malaysia is in the forefront as an exporter of captive-bred, high-value exotic fish (e.g. Arowana). Animal welfare and general care for tropical fish are higher in comparison with that of food fish. For more information about aquaculture in Malaysia and Singapore see Section 5.4.2.

Horses are generally well taken care of as prized animals for races.

South Korea

Cattle are housed in stanchions or chain housings on small farms, but large farms use free stalls or loose barn housing systems, which systems are increasing. Group size differs: 55% of dairy cows are raised on farms with 50-99 cows. The majority (86%) of beef cows are raised on small farms (1-19 cows). Some of the bulls born in the cattle industry are castrated. In Korea the level of stockmanship is high for dairy cattle, but lower in the beef-cattle industry. Mixed grass and concentrated feeding (grain) is a common practice; grazing is rarely seen. In addition, modernised heating or cooling systems are rarely seen. During summer, fans are used. Mortality before slaughter is about 9% in dairy cattle and about 1% in beef cattle. Transport of cattle is mainly conducted by truck. The slaughter of the animals is done by giving an electric shock or hitting them on the glabella (between the eyes), after which the animal is bled.

Small pig farms have housing without automated systems, while large farms have automated systems. Production is very intensive. Castration, tail docking, and tooth cutting are common practice. The level of stockmanship is high. Pigs are given adequate feed and water. In the smaller farms natural ventilation is used; larger farms use automated ventilation (climate control). Foot-and-mouth disease and cholera are diseases which affect pigs in Korea. Mortality in pigs is about 10%.

Approximately 10% of poultry are kept in cage systems with automated ventilation; the other 90% are also kept in cages, but without automated ventilation. The light intensity in cage systems is low. Usually six layers are placed in each cage. Forced moulting and beak trimming are common practices. The level of stockmanship is medium in the layer industry and high in the broiler industry. To control Avian Influenza poultry has been buried alive in an attempt to eradicate the disease. Mortality of both laying hens and broilers is about 18%. There is adequate feed and water provisioning; small farms have natural ventilation and large farms have automated ventilation systems (climate control).

Russia

Russian farming practices are comparable to Western practices, in particular because there are many farms currently being developed and modernised with the help of European or American companies. The meat sector in Russia is controlled by a great number of substantial locally-oriented producers. A large part of this sector and the processing of the products are undertaken in the Volga and Siberia regions and in the south and central districts of Russia. The export-oriented production takes place in the central and northern region. The latter regions are also more urbanised compared to the other regions and therefore they also have a more interesting local market. The vertical organisation within the meat chain is limited: slaughter plants and processors buy their animals from local farmers or they import animals. Only a small number of companies have their own chain with farms, slaughter plants, processors and distribution net. Threats include a moderate feed quality (to feed their stock) and a lack of continuity in supplying feeds, animal health problems, lack of modern machinery for meat processing and poor distribution. Opportunities include the production and import of feed products and additives, the import of machinery for farms, slaughter plants and processing (Holwerda, 2008).

The focus for animal health is on zoonoses. Disease monitoring is claimed to be intensive in Russia. Housing varies according to location. Russia has very different landscapes, with very different needs and demands, e.g. in mountainous regions (Caucasus), herds are left 'semi-free', and allowed to mix with other herds. Close veterinary control is necessary for these animals. All cattle, sheep and pigs from six months onwards are checked for TBC on a yearly basis, and other animals are checked when there is an indication of the disease.

Slaughtering methods are standardised and primarily geared to preserve food safety and quality. There is no means of speeding up improvements in product quality. Animals are given an electric shock before being slaughtered and processed.

Dairy cattle are usually housed in tie stalls (75-80%), but there is a trend towards loose housing (20-25% at present; this may be 30-40% in 2009-2010). Housing is suitable for approximately 250 cows, and a company often has more than one unit. Farms can comprise 10,000 animals, sometimes situated at different locations. The fertility rate for cattle is 85-90 calves per 100 cows in modern farms. This number is lower in older farms. The loose housing system is modern with good climate control. Tie stalls are old fashioned, often with non-optimal climate and feeding. In loose housing, dairy cattle are often kept in groups of 100-200 cows.

Management is a problem, due to a low level of herd-management skills. There is often specialised staff on the farm (AI specialist, vet, etc.). Similar practices can be seen in tie stalls. Feed is often of poor quality, and the level of concentrates is too high. The most common health problems in dairy cattle are related to fertility and hoof problems. Poor quality roughage and poor disease prevention programmes contribute to these problems.

Transport from EU suppliers occurs in specially-equipped trucks. Domestic transportation also takes place by truck. Animal slaughter is conducted according to Russian rules.

Beef cattle are kept in a similar way as dairy cattle.

A number of 10,000 fattening pigs on one location is common practice. Breeding sows are often kept in units of 2400. There may be several of these units at one location or within a company, resulting in very large companies (according to European standards) that include a feed mill and a slaughterhouse. Carcasses are transported to urban areas for processing.

Laying hens are kept in battery cages, and broilers live in large barns. Both are comparable to the systems used in Europe.

Aquaculture is growing. Fish has always been important, and farming fish is developing (trout, in particular, is popular). There is a large variety of fish farming in rivers and lakes. For more information about aquaculture see Section 5.4.9.

Thailand

Pork is the major source of protein for Thai consumers. Sanitary procedures for slaughtering and processing, especially for swine, have been a key issue for food safety and animal welfare. There are still a substantial number of illegal and uncertified slaughterhouses and butchers operating on bare soil with a high risk of contamination. As large agro-industry firms have been trying to export pork, about a dozen modern pig slaughterhouses are at present designated for the exporting sector.

Broilers seem to be kept in a manner comparable to EU standards. Commercial broiler production started in the 1970s and has increased considerably since, particularly over the past 10 years. The broiler industry is one of Thailand's most dominant exporting sectors to the EU. Integrated poultry-industry operators have switched to modern slaughterhouses for both export and the domestic market. All modern slaughterhouses use electric shocks to stun broilers before killing and slaughtering them. The broiler industry recognises the competition on the world market (Brazil and China being its major competitors) and is moving into free range and organic poultry meat and premium cooked products (Bowles et al., 2005). More information about broilers in Thailand is provided in Section 6.2.3.

The shrimp fishery is, like the broiler industry, one of the dominant exporting sectors from Thailand to the EU.

Vietnam

In Vietnam there are a substantial number of farm animals, but most of these are kept on small-scale farms. International media attention regarding animal welfare in Vietnam has focussed on the production of bile from bears. Bears have long been milked for their bile, hailed by some traditional medicine practitioners as a health tonic or a cure for a wide range of ailments. The bile is extracted through metal pipes in the crude "free-dripping technique" or, in more sophisticated operations, with sterile syringes and using ultrasound equipment to locate the gall bladder. Approximately 4,000 to 5,000 bears are caged in battery farms with hundreds of bears present on each farm. The animals are kept in very small cages where they can barely move. This causes stress which results in bears performing head banging, bar chewing and paw chewing (see Figure 3.7). Keeping bears has been banned for nearly two years according to an article in the Bangkok Post of January 2007 (Sumernet, 2008). Wild bears in Vietnam are close to extinction and the main reason for this is that people catch wild bears to be kept on bear farms. The non-profit group Wildlife at Risk (WAR) is fighting this illegal practice.



Figure 3.7 A bear chewing the bars of its cage. The bear is kept for milking its bile.

3.4.3 Perceptions of animal welfare in Asia

China

Animal welfare has not been an important topic for the citizens and government of China; production receives more attention. Some research has been conducted on environmental enrichment for pigs (use of chains or balls to play with; see Figure 3.8), the main reason being the production of pork tails, which are considered a delicacy. Without proper enrichment, there is an increased chance of tail biting and thus loss of production (Pers. Comm. Zhang Weili). Contrasts within China can be great: some Chinese eat dogs, whilst others pamper them with expensive dog food and clothing.



Figure 3.8 Enrichment in a loose-housing pig production system (Li, 2008)

NGOs are active in China. Greenpeace focuses on environmental protection, e.g. pollution and climate change. Circus animals and bears used for their bile receive some attention, but animal welfare is not frequently discussed. The national symbol, the Giant Panda, is well protected and is the object of breeding programmes, but at the same time products of the endangered Siberian tiger (that also has a breeding programme) are still sold on the market.

In the next ten years, production of human food will probably be the main goal for China, not animal welfare. There may be a difference in production for export and for the local market. China has enough means to produce according to rules set by an importing country (as long as that country pays enough money). Organic agriculture is not common in China. However, there appears to be the development of a hype for organic products (although this does not seem to be based on consumer concerns about production practices).

There is little enforcement of the regulations regarding wildlife and national parks, resulting in a mismatch between legislation and practice.

Dr Boaming Li of the China Agricultural University has provided information about production trends in the farm animal sectors. Figure 3.9 shows trends between 1979 and 2005 for the meat production of pork, beef, mutton and sheep. Similar trends are visible for egg and milk production, both increasing from 2,500,000 to 30,000,000 tonnes.

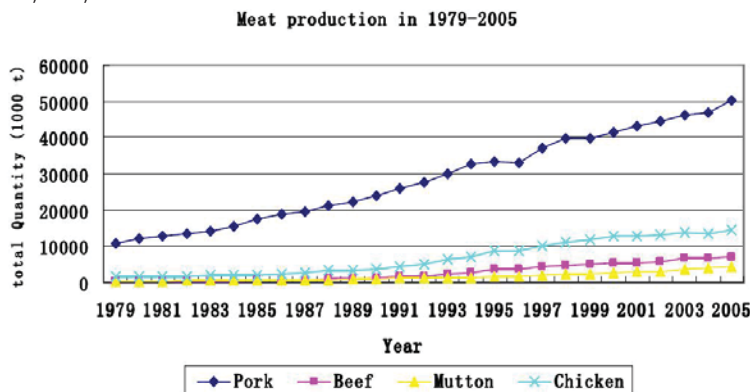


Figure 3.9 Trends in meat production in China. Similar (increasing) trends are visible for egg and milk production (Li 2008)

Japan

Animal welfare as such is not an issue in Japan, neither politically nor publicly. However, recently the Ministry of Agriculture, Forestry and Fishery (MAFF) appointed an official to deal with animal welfare issues. In 2007 on the initiative of MAFF, a study group was established for animal-friendly husbandry and management of farm animals. Its members consist of representatives of the veterinary world, the sector (farmers, producers, and retailers), scientists, NGOs and consumer organisations and its aim is to develop voluntary guidelines.

In 2006, a survey was conducted to study consumer perceptions regarding animal welfare. One of the questions focused on the type of animals people associated with animal protection. Of the respondents 46% answered pet animals, 21% animals used in exhibitions, 19% laboratory animals, and 6% of the consumers mentioned farm animals. Food safety is the main issue for Japanese consumers with regard to farm animals, perhaps because consumers generally live far away from production areas. The average Japanese person has never seen an animal production system. Another explanation could be that in Japan traditionally everything that was related to meat and the production of meat was regarded as unclean (though farmers were not outcasts; most farmers mainly produced rice and some vegetables). Butchers were considered to be the 'outcasts' of society. Several years ago, the culling of poultry was shown on television, and this did not, in fact, lead to commotion among citizens. Citizens are preoccupied with food safety and not with chicken welfare. Pet animals scored high in the above mentioned survey, and some Japanese people dress their dogs in clothes.

Several NGOs in Japan focus on animal welfare (Alife, Greenpeace Japan). Their public and political influence, however, is small. Whaling, for instance, receives very little attention from the Japanese public.

The subject may be of increasing importance as indicated by the appointment of a MAFF official to deal with animal welfare issues. Animal welfare is also receiving increasing international attention, especially in the OIE (the World Organisation for Animal Health). Furthermore, developments regarding animal welfare in the EU and America force Japan to consider this too. Japan seems to be more of a following than a leading country.

India

The animal welfare situation in India is rather diverse. In the dominant Hindu culture most people are vegetarian, and vegan in the Jain culture. However, more and more people are eating meat as a cheap and high-quality source of protein (especially poultry meat). Animal welfare concerns include the many street dogs, with a high prevalence of rabies posing a public health risk. Cows can roam freely, but bulls are frequently abandoned by their owners, and cattle often suffer from lameness due to a lack of hoof trimming. There is little use for bull calves since they are unsuitable for working and they cannot be fattened for meat (because cows are sacred). As a result they are often left to die from starvation and dehydration.

Some NGOs are present, trying to protect the Bengal tiger, for example, but their influence is small. In the newspapers, attention is paid to issues concerning such topics as street dogs and work conducted by The Brooke Hospital (such as providing veterinary care for draught animals).

Malaysia and Singapore

Animal welfare was not an important issue until the 1970s, but the scene has changed over the last thirty years with increasing economic and urban development. Animal welfare was initially fought for by welfare bodies like the RSPCA, which was run by volunteers, mainly expatriates. They focused on rescuing abandoned pet dogs and cats from the streets, and addressing animal cruelty issues publicly. Veterinarians were in the forefront of promoting animal welfare and public education. Today, public awareness has increased tremendously including responsible pet keeping practices.

Today, a wide range of organisations is involved in animal welfare (over 30 government and private organisations in Malaysia and 11 in Singapore), but public perception towards intensive husbandry of pigs and poultry has not reached the same level as in the EU. In Malaysia, the National Animal Welfare Council and Foundation, and in Singapore, the Animal Concerns Research and Education Society (ACRES), spearhead several initiatives to heighten animal welfare matters.

In Malaysia and Singapore, the annual release of live small animals (e.g. tortoises, birds) is practised, especially on religious festivals (e.g. Vesak day, which is the Buddhist Day of Enlightenment) to gain merit. Although intuitively this appears to be a positive experience for the animals, many of these pet animals do not survive when released.

Halal slaughter is promoted by the Malaysians.

The tropical aquarium-fish industry is gaining importance and Malaysia is in the forefront as exporter of captive bred high-value exotic fish and this may increase animal-welfare awareness.

Philippines

Private organisations like the Philippine Animal Welfare Society (PAWS) and the Philippine Society for the Prevention of Cruelty to Animals (PSPCA) have had no mass base and focused mostly on companion animals. Animal welfare has become a public issue since the passage of the Philippine Animal Welfare Act of 1998. Over the years, the issue of the use of draught and production animals has gained importance. There is also a growing emphasis on research of animals and wildlife kept in captivity such as zoos and private animal collections. Cattle and pigs also receive a fair amount of attention from the media and NGOs. All other species (poultry, fish, and laboratory and wild animals) also receive some attention, but to a lesser extent.

Philippine society is evolving and is complex. There are different perspectives regarding animal welfare. People have become sensitive to the way in which animals are kept and raised. Consumer expectations and concerns have changed and are now also focusing on production and sustainable development. There are several aspects to this:

NGOs are becoming more organised and their influence is increasing;

Market forces do not seem to induce producers to improve welfare practices.

The Philippines may also sign 'The Johannesburg Declaration on Sustainable Development' (2002). Awareness, information, education, and campaigns are important for ensuring compliance with existing regulations concerning animal welfare. The improvement of animal welfare also depends on social, economic and environmental conditions.

South Korea

Animal welfare has never been very important in Korea, although some issues have received media attention. Examples include the burying of live poultry for Avian Influenza eradication and the cruel treatment of downer cows in U.S. slaughterhouses. Pulmuone, one of the biggest organic companies, introduced animal-welfare regulations for its meat, eggs, and milk products for the first time in Korea. Moreover, there has been some attention to pet dog abandonment and poaching of wild animals. There is little concern for animal welfare despite the fact that there is little grazing in cattle husbandry; pig, layer and poultry husbandry use high stocking densities; pig houses are not clean; there is unfriendly behaviour of humans towards animals in slaughterhouses; and poultry have been buried alive for AI-related disease control.

At present, there is only one animal welfare association in Korea; the 'Animal Preservation Association'. It has 3,800 members. It was registered in 2003 but has had little influence until now.

Increasing globalisation, food safety and quality standards have brought increasing awareness and appreciation of animal welfare in the business and trade sector, especially concerning housing, management, transport, disease control, use of biological agents and slaughtering methods. However, the extent of enforcement is limited only to companies with GMP+ and HACCP standards, particularly in the fishery and meat sectors. In general, animal-welfare enforcement is a topic of concern, deserving continuing support and education. Another mismatch concerns people's awareness of the regulations. There are some trends of sharing of best practices with countries with more developed industries.

Russia

Health, climate, and feeding are urgent animal welfare issues. Due to non-optimal management farm animals are at risk. Mortality can be very high (> 10%) due to a lack of feed during harsh years. The government is trying to improve this since it also ensures food safety and food quality. Staff at farms seems to be disassociated from the animals due to a lack of family farming in the country, low pay and a poor job appreciation.

Animal welfare is not perceived as an issue in Russia, neither for the government nor for consumers. It will probably remain this way for some time in the near future. Russian citizens appreciate having access to affordable food. The term "animal welfare" is generally interpreted in terms of food safety and health by policy makers, where the focus is on animal health and feeding technologies. Technology development is the main driver to improve existing animal health and meat or dairy production.

In intensive farming emphasis is on developing standards so that infectious and/or genetic diseases can be curtailed and on introducing preventive measures to preclude the introduction and spread of diseases. Institutions are also trying to improve animal feeding, e.g. the protein intake of animals. Improving natural conditions may be important as it could lead to better quality of meat (more 'ecologically sound').

Public awareness of animal health has been increasing in the last 15-18 years. Being able to buy safe food of good quality is extremely important to Russian consumers. Consequently, the public wants clarity on animal (health) conditions. Veterinary experts in this field are very much looking forward to a simplified system of regulations (tracking and tracing laws).

There are some NGOs present in Russia, e.g. VITA Russia and The International Fund for Animal Welfare (IFAW). IFAW, for example, focuses mainly on the protection of wildlife that is more or less regarded as 'cute' (bears), anti-fur campaigning (seals) and taking care of (stray) dogs and cats.

Agricultural development in the country can mean that economics play an important role in farming, but this will probably involve (high levels of) restriction by the government. A considerable gap exists between the institutes and real practices e.g. on farms and in laboratories. Farming in Russia is not the same as in the Netherlands and/or EU: one aspect is that family farming was destroyed during the collectivisation of the Soviet era. For farming the prevailing rule is: the more efficient, the better, without animal welfare being made an issue.

Currently a database is being established to identify and trace pedigree animals. The database will play an important role in the further development of a law on the 'identification and tracing of pedigree animals', which is currently being drafted. The idea behind this law is that (farm) animals will be traceable throughout the chain from 'producer to fork'. At this stage the draft law has been discussed with the relevant competent authorities. The expected adoption date is in 2009.

The food industry is in private hands and mainly focuses on the retail of reliable and safe products that were and still are being imported. Slowly, backward integration is rising and the industry is setting requirements for producers. The food chain is both horizontally and vertically integrated. There are several hundred large food-chain-integrations.

Growing attention is being paid to organic agriculture, although this is based on the wish for food safety and optimal health and interest in it is still very limited. Organic farming is in development, with certification and production. Animal-welfare rules will be included in the system of certification of organic farms. At present, most organic products are imported. In Russia, locally-produced agricultural products are frequently (unintentionally) organic. Furthermore, products originating from forests are widely available, such as mushrooms and berries, but also poached wildlife.

Until 2003 Russian agriculture had received little attention from the Russian government since the early nineties. In 2005, a presidential programme started involving considerable investments in agricultural development. Presently, a new president and prime minister are in office, and, consequently, it is not yet clear what their new policy will be regarding agriculture.

In the future, companies may have to produce in a more welfare-friendly manner to be able to export to the EU. Moreover, animal welfare may become more important as part of sustainable development. The large quantities of 'oil-dollars' flooding into the country may help in realising numerous investments. The more developed regions like St. Petersburg, Moscow, Samara and Belgorod will probably be the first to adopt new trends, also with respect to animal welfare.

Thailand

NGOs and governmental bodies have an important role in supporting and promoting the welfare of pets and wild animals in society. For 12 years the Thai Society for the Prevention of Cruelty to Animals (TSPCA) has combated cruelty and raised awareness about animal welfare issues in Thailand. The TSPCA has been working closely with the government and communities in several projects on a basis of six strategies:

- Baseline monitoring of animal cruelty in Thailand (to establish a national database on Thailand's population of stray and suffering animals in rural areas)
- Partnership and certification campaign (to ensure the best treatment of animals in the food, farm and entertainment industries)
- Education and awareness
- Animal welfare legislation
- Animal adoption and re-homing (to provide shelters, boarding house and clinics for stray animals)
- Volunteer and network development (to ensure national and international cooperation on animal welfare)

The Friends of Asian Elephant Foundation (FAE) is an NGO dealing with elephant welfare as the elephant is a national symbol of Thailand. For instance, the sick or injured elephants are treated at the Elephant Hospital in Lampang Province, which is owned by the Foundation. Information on any elephants that are hurt, sick or dying receives a great deal of attention in Thai society. Several governmental bodies have tried to introduce reforestation programmes to support the elephants. When the animals are not able to survive in their natural habitat, they are kept in a zoo or in a wildlife research centre and these organisations need to assure the public that the animals are well cared for.

Local consumers have different opinions about livestock welfare. The wealthier and well educated consumers in the larger cities are more aware of welfare and may be willing to pay more for a higher quality product. This is seen less in rural areas where traditional wet markets are still common. In some semi-modern wet markets, livestock products from certified farms and slaughter plants are available; this certification is mainly due to the outbreak of Avian Influenza which made domestic consumers more aware of the way livestock products are produced, and of concepts like traceability, biosafety management and surveillance.

Since animal welfare has become a topic under WTO's agricultural negotiations there have been doubts about its applicability to developing countries and in particular about its consequences for market access. From 1999 Thailand has established baseline animal welfare standards for farms, transport and slaughter, and for disease control. For broilers, animal welfare regulations appear to have been developed and implemented successfully and swine welfare regulations are being developed.

There is recognition that animal welfare could be an important quality characteristic for added-value products for the export market. Certain international retailers are already sourcing from Thailand on animal welfare grounds. Recently, DLD reported that free-range chickens produce more tasty meat than industrially-fed birds and announced that technical and financial support could be developed to promote the acceptance of these products in export markets.

Traditionally many Thai livestock farmers (both backyard and commercial) are concerned with the welfare of their animals, not only because of profit, but also because of their emotional value. The industrialisation process might suppress this and farmers need to follow guidelines provided by specialists or contractors.

The implementation and enforcement of animal-welfare regulations for livestock farming (production) and trading seem to have a high priority. All stakeholders in the livestock industry share the same opinion for global business survival and recognise that for this animal welfare is indispensable. At present, many Thai exporters view animal welfare as a necessity, e.g. related to protectionism.

Vietnam

In Vietnam some international organisations are involved in protecting wild and endangered animals, but there are no efforts as yet to protect livestock and pets. The International Fund for Animal Welfare (IFAW) asked people in China, South Korea and Vietnam about their views and found that 90% believed "we have a moral duty to minimise suffering" and the majority would like to see legislation to protect animals and to see their governments take action on the issue.

Bear farming is a key issue for the World Society for the Protection of Animals (WSPA). They are working in China, Korea and Vietnam to convince governments that it is in their best interest to close down the bear farming industry. WSPA has worked with law enforcement officials to halt the illegal trade in bear bile, conducting undercover investigations into the illegal trafficking of bear bile around the world, including traditional Asian Medicine shops in Chicago. They are also actively lobbying for the passage of HR 3029, the Bear Protection Act of 2007 (World Society for the Protection of Animals, 2008). Enforcing the ban on keeping bears for bile is a difficult task, largely as a result of very limited financial and human resources. In an article about bear farming (Bangkok Post), Sulma Warne of the Wildlife Trade Monitoring Network (Traffic) said that after the ban authorities allowed people to keep micro-chipped bears provided they were no longer exploited. Meanwhile, the bear-bile trade appears to be flourishing.

In 2004 the authorities in Ho Chi Minh City (HCMC) and the national government announced plans to set up a wildlife rescue centre in HCMC. Wildlife At Risk (WAR) agreed to fund, equip and advise on this pilot centre. Construction was completed in late 2006. Based close to Cu Chi, a popular tourist attraction, the facility offers rescue and rehabilitation for endangered species confiscated in HCMC and southern Vietnam, and also includes an Awareness Centre (Wildlife at Risk, 2008) for local communities and visitors. The centre is predominantly intended to accommodate turtles, reptiles and small carnivores, but is also equipped to handle a limited number of primates and bears. The WAR Rescue Centre is the first centre of its kind in southern Vietnam. Operational guidelines have been drawn up by WAR's veterinarian, in close collaboration with FPD HCMC, and reviewed by regional specialists. The centre is managed by qualified staff to ensure compliance with international protocols on animal rescue and husbandry. WAR is collaborating with other conservation organisations to promote a coordinated approach to the rescue of endangered species throughout Vietnam. A grant from the Winsome Constance Kindness Trust is helping to fund improved accommodation specifically for turtles, snakes and lizards. Medical supplies and equipment have been donated by Family Medical Practice, Vietnam, and a variety of sources in Australia. WAR is currently liaising with Free The Bears, an Australian animal welfare charity, with a view to obtaining support for the construction of a larger hospital and holding centre, specifically for confiscated bears (Wildlife at Risk, 2008).

3.5 Middle East

For the Middle East information was obtained from Iran, Israel, Saudi Arabia, Turkey and the United Arab Emirates. Some background information about these countries can be found in the table below. An overview of animal welfare in the Middle East is presented in Aidaros (2005).

Table 3.9 General information on the Middle Eastern countries discussed in this chapter.

Country	Population (million)	GDP per capita (\$)	Climate	Arable land (%)	Main religion
Iran	65.9	11,700	Mostly (semi)arid	9.8	Muslim 98%
Israel	7.1	26,600	Temperate & desert	15.5	Jewish 76.4%
Saudi Arabia	28.1	19,800	Harsh, dry desert	1.7	Muslim, 100%
Turkey	71.9	12,000	Temperate; hot, dry summers; mild, wet winters; harsher interior	29.8	Muslim 99.8%
United Arab Emirates	4.6	37,000	Desert	0.77	Muslim 96%

Source: CIA World Factbook

Table 3.10 Information on 2005 livestock production and export of meat for countries in the Middle East discussed in this chapter

Country	Species	Numbers present	Meat export (tonnes)	Meat export to the EU (tonnes)
Iran	Poultry	380,000,000	15,150	0
	Cattle	9,378,000	363	0
	Pigs	0	0	0
Israel	Poultry	30,828,000	8,638	4,894
	Cattle	357,000		0
	Pigs	205,000	116	51
Saudi Arabia	Poultry	141,000,000	29,757	0
	Cattle	352,000	5,409	0
	Pigs	0	0	0
Turkey	Poultry	296,876,000	46,216	827
	Cattle	10,069,346	405	16
	Pigs	4,399	573	152
United Arab Emirates	Poultry	16,500,000	13,196	0
	Cattle	116,500	14,394	0
	Pigs	0	1441	0

Source: FAOSTAT (2009)

3.5.1 Animal welfare regulations

At the OIE meeting in Cairo in October 2008, Kahn (2008) presented data from a global questionnaire on animal welfare sent out to 13 OIE countries in the Middle East. A total of five responded. Of these five respondents, 80% (four countries) indicated that they had legislation in place on animal transportation, 100% had legislation on the slaughtering of animals, and 100% on killing animals as part of disease control measures. Kahn (2008) also reports that 80% had regulations on stray dog population control. Global averages for these parameters, according to the questionnaire results, are 80%, 76%, 82% and 68%. Therefore, the countries in the Middle East who responded generally had higher scores compared to other OIE member states.

As for voluntary schemes, three out of the five respondents had schemes on transport (60%), three on slaughter (60%) and three on killing for disease control (60%). These figures are higher than the average global figures of 37%, 42% and 37% respectively (Kahn, 2008), but caution is needed as the number of respondents is relatively low.

Iran

We found no animal welfare regulations in Iran.

Israel

Israel has a number of animal welfare laws, such as the Animal Protection Law (1994), the Animal Experimentation Law (1994, which bans animal use if a reasonable alternative is available), the Wildlife Protection Law (1955), which meets the standards of the Convention on International Trade in Endangered Species and

prohibits hunting wild animals in several ways, the Animal Disease Ordinance (1985), the Dog Regulation Law (2002), which requires licenses, microchip implants and routine vaccination, as well as covering importing and keeping of dangerous dogs and the Rabies Regulations (2005).

Saudi Arabia

There are regulations for some kinds of wild animals and for some marine species. There also appears to be some local legislation about pet animals (see Text box 3.4).

Text box 3.4 Cats and dogs banned by Saudi Arabian religious police

On 30 July 2008 a prohibition went into effect in the Saudi Arabian capital, Riyadh, banning the sale of dogs and cats as pets, as well as walking them in public. Violators found outside with their pets will have them confiscated by agents of the Commission for the Promotion of Virtue and the Prevention of Vice, the religious police.

The commission's general manager, Othman al-Othman, said the ban was ordered because of what he called "the rising of phenomenon of men using cats and dogs to make passes at women as well as violating proper behaviour in public squares and malls. If a man is caught with a pet, the pet will be immediately confiscated and the man will be forced to sign a document pledging not to repeat the act."

The prohibition may be an attempt to curb the owning of pets, which conservative Saudis view as a sign of corrupting Western influence, like the fast food, shorts, jeans and pop music that have become more common in the kingdom.

In Islamic tradition, dogs are shunned as unclean and dangerous, though they are kept for hunting and guarding. In large cities around the Middle East, stray dogs are considered pests.

The ban on cats is more puzzling, since there is no similar disdain for them in Islamic tradition. A number of hadiths show the Prophet Muhammad encouraging people to treat cats well. Once, he let a cat drink from the water that he was going to use for his ablutions before prayers. Another time, Muhammad said a woman, who kept a cat locked up without feeding it, would go to hell.

Source: CBS NEWS, 2008

Turkey

Although there is no history of welfare regulations for specific species, the protection of animals and some welfare issues are partly covered in different laws and regulations which were published by the Ministry of Agriculture and Rural Affairs (MARA) and the Ministry of Environment and Forestry (MoEF). These laws are: the Law on Animal Protection (MARA); the Law on Animal Health Control, amended in 2004 (MARA); the Regulation on Implementing the Animal Protection, 2006 (MoEF).

Turkey is also a member of CITES.

In general the requirements under the animal protection laws and regulations are the same as in the Netherlands (regulations about how to keep animals, transport and import or export them). There is also a regulation implementing the Law on Animal Protection, which basically states that owners are responsible for their animals. The focus is mainly on good health, rather than welfare, as there are many endemic diseases. Animal health is the responsibility of MARA and the animal welfare and safety issue is the responsibility of MoEF and the municipalities. The Turkish government has started to harmonise its legislation in line with EU directives.

UAE

The United Arab Emirates (UAE) has the following welfare regulations for kept and/or wild animals:

The federal law No 16 for year 2007 on Animal Welfare;

The UAE Civil Procedure Code, Federal Law No. (11) of 1992;

The ministerial decree no. 384 for year 2008 on the Animal Welfare By-law;

The Resolution No. 4 of 2005 on fishing for migratory fish with the aid of ring nets;

Resolution no. 1 of the year 2003 on fishing with large hemispherical wire-mesh fish traps;

Ministerial resolution no. 302 of 2001 on the exploitation, protection and development of living aquatic resources in the UAE

New regulations are being developed;

The UAE has acceded to the following conventions, protocols and organisations:

CITES to protect endangered species;

Vienna Convention for the Protection of the Ozone Layer ;

Montreal Protocol;
 Basel Convention on Control of Trans-boundary Movements of Hazardous Wastes;
 NCCD (National Committee for Combating Desertification) to combat desert formation;
 POPs (Persistent Organic Pollutants);
 Biological Diversity Convention;
 The International Treaty on Plant Genetic Resources;
 World Trade Organisation (WTO) Agreements;
 OIE (World Animal Health Organisation).

All CITES responsible authorities in the UAE are collaborating to take action to combat the illegal trade in wildlife (endangered species) in line with Federal Law No. 11. The UAE has developed a wide falcon registration scheme which includes the issuing of passports for falcons to control their movements in and out of the country. The UAE is also focusing on protecting the natural environment, wildlife and biological diversity by carrying out several research studies on desert, marine and wildlife species and their habitats.

According to the Dubai International Air Transport Association (IATA), the UAE is in the process of adopting its live animals' regulations (LAR). The UAE is the second country in the Middle East to adopt these regulations for the transport of live animals to and from the Emirates. These regulations are believed to ensure the welfare and safety of animals which are being transported by air and will bring these transportation procedures into conformity with international or local regulations. In addition, the UAE government will have access to a comprehensive source of information about containers used for most animal species, reducing transit times. The UAE has joined a list of 45 countries including the EU, the United States and Oman that have officially recognised LAR and included them as part of their government legislation. The carriage of live animals by air is considered to be the most humane and expedient method of transportation over long distances. Emirates Airlines is a member of IATA and has experts to assist the industry on issues that often go beyond conventional airline expertise, such as the best way of transporting flamingos or whether large primates can be allowed to move around in a container.

3.5.2 *Farming practices in the Middle East*

Iran

There is a major constraint on feed production (for every farm animal species) in Iran due to adverse climatic conditions. Hence, Iran is a major importer of feed ingredients. Iran has been suffering from a drought crisis over the past 30 years. Poor irrigation systems are contributing to the crisis as 75% of all water resources in the country are consumed by the agricultural sector at a rather low efficiency rate.

The total population of Holstein cows in the country is about 900,000 head and the annual fresh milk production stands at around 6.2 million tonnes. Dairy farming in Iran is similar to North American practices, i.e. large herds of over 1,000 Holsteins in extensive, enclosed farms. Free stalls are becoming popular. Mats are increasingly being provided on barn floors, which are typically dry due to arid climatic conditions. Dairy farm management in Iran is quite advanced and is mostly based on recommendations by Dutch and North American sources (Veepra Magazine, Hoard's Dairyman and Intl. Livestock Management School in Guelph, Ontario, Canada). Iranian dairy farmers attend numerous courses per year both inside and outside Iran and are relatively up-to-date on the latest developments in dairy farm management. In 2008, an unprecedented price hike in the feed sector (due to drought) hit the dairy sector, leading the government to liberalise the farm-gate selling price of fresh milk to help farmers boost their income. This happened while pivotal programmes of the government were striving to help raise the acreage and output of alfalfa, maize and barley plantations, and canola seed production was being intensively promoted.

Mastitis, Bovine Tuberculosis, foot-and-mouth disease and calf diarrhoea are the most common disease challenges. Infectious Bovine Rhinotracheitis (IBR) and Bovine Viral Diarrhoea (BVD) are closely screened as well. The total red meat production of Iran at the moment is around 850,000 tonnes, but this figure also includes meat produced by sheep and goats. Beef cattle are reared in large but enclosed barns which are very similar to the dairy farms. Enclosed barns with shades and concrete floors are the most common. The enclosures are normally clean and floors and walls are regularly disinfected. The arid climate also helps in keeping the feedlots dry. Beef management in Iran is less advanced than dairy farming but is still at an acceptable level. The sector does not use beef breeds. Young dairy bulls are mostly fattened for meat production. The constraints on resources mentioned for the dairy industry also put pressure on the beef sector. Feed prices have reached a crisis point for the whole sector.

There are no specialised transport companies and cattle (dairy and beef) are normally loaded onto lorries originally designed to carry other (non-animal) goods. Stunning is practised in all slaughterhouses in Iran. Iran has no pig industry (for religious reasons).

The layer industry is huge and most layer houses are automated based on globally common technologies. Cage systems are similar to the European systems, and especially systems from the Netherlands as Dutch companies are leaders in selling cage systems to this market in Iran. Hens are kept in battery cages with automated egg collection. Management is quite advanced and based on the latest developments in global poultry science. The total annual egg production of the country is about 700,000 tonnes based on 1400 commercial layer farms. Health management in the layer industry is quite progressive but problems such as Newcastle disease, respiratory diseases and Gumboro disease are among the diseases presenting major challenges. Broiler houses are, again, similar in structure and population density to those in the West. So, welfare problems are probably comparable to those in the EU. Automated or computerised climate control systems are used and nutrition management systems are gaining ground quite rapidly. Broiler management in Iran is progressive. Broiler farmers receive regular training inside and outside the country, including the UK, Canada, France and the Netherlands. The diseases mentioned for the layer industry apply here too. The total annual chicken-meat production of the country at the moment stands at 1,330,000 tonnes, making Iran something like the 12th largest broiler producer in the world. It is also said that after the oil and gas industry, the poultry sector is the second most capital-intensive sector of the Iranian economy. Cannibalism is a commonly reported problem for poultry (layers and broilers). Iranian farmers resort to optimising feed rations and health management systems to prevent the problem. It is not a key problem in Iran but occurs in individual cases across the country. Poultry are normally jam-packed into plastic boxes with openings for respiration and ventilation and loaded onto lorries for transport. Stunning is used in Iranian poultry slaughterhouses. As in the previous sectors, the feed crisis has also stricken the poultry industry. Fish are farmed in rivers, natural lakes, artificial reservoirs, irrigation canals, aqueducts and ponds. The production of farmed fish has risen constantly since 1985, and expanded rapidly due to suitable environmental conditions and climatic diversity in Iran. The total annual production of all farmed species by the end of 2008 is estimated to reach 269,214 tonnes. The State Fisheries Organisation and the Iranian Fisheries Research Institute carry out nationwide training programmes on farm management and sustainability. Nevertheless, management standards seem to remain at an intermediate level. There are problems of yield and disease control (white spot is a commonly reported problem). Imported, specialised feeds are becoming popular. Caught fish are normally transported in plastic boxes loaded onto refrigerated vans. The catch is left on the ground to perish naturally from religious reasons and no beatings to death are practised. There are about 52 million sheep and 28 million goats in the country, which are mainly reared for red meat production. Ostriches and turkeys are other farmed species in the poultry sector. The same issues as explained for the layer and broiler industries also apply to these industries. Turkeys are kept in large, indoor houses and ostriches are kept in enclosed, shaded barns. The level of ostrich production is limited. Turkeys are placed in boxes for transportation. Stunning is the commonly practised during slaughter.

Israel

Israel has the highest fat and protein production per cow in the world. The average yearly milk production per cow is more than 11,000 litres (Israel Dairy Board, 2009). Cows are sometimes kept in large groups of 300-400 cows. High-tech systems are operated, cooling systems are used and farmers have a high level of expertise. In total, about 400,000 cattle (dairy and beef) are raised in Israel. Beef cattle are kept in areas where they can graze.

Israel has almost no pig farms. The raising of pigs was made legal according to a 1962 law, and was originally only conducted by non-Jewish citizens. Nowadays, some Jewish farmers also keep pigs. Poultry houses have ventilation, spray systems, strict computerised supervision, fully automated drinking systems and special flooring. Very disease-resistant poultry breeds are used. These intensively farmed poultry face similar welfare problems as those in the EU (e.g. rapid growth rate of broilers).

In Israel, 20,777 tonnes of fish are processed from both aquaculture and marine culture (a specialised branch of aquaculture). Most species were originally imported from abroad. Much of the fish is kept in polyculture, and raceways and intensive fish ponds are used. Management is very technical and a further intensification of aquaculture is expected. Fish farming plays a substantial role in ecological concerns, such as water quality and consumption. Recently there was an outbreak of KHV (Koi Herpes Virus). More information about aquaculture in Israel is given in Section 5.4.6.

There are about 454,000 sheep and goats in Israel, including at least 60,000 breeding ewes of the Assaf sheep and at least 260,000 of the Awassi sheep. Husbandry systems range widely, from intensive to extensive. The sheep are highly adaptable to harsh conditions. Further improvement is achieved by breeding. The native-bred Awassi sheep produces 1 lambing per year. Approximately, 430,000 lambs are slaughtered each year. Saanen goats are mostly kept under intensive living conditions. Their milk production is excellent and they usually have two kids per kidding. Around 70,000 goat kids are slaughtered each year.

Saudi Arabia

The hot and dry climate of Saudi Arabia makes it hard to produce feed for farm animals. Therefore, feed has to be imported.

Large numbers of dairy cattle are kept in Saudi Arabia, where enough space is available. Large farms have on average 40,000 cows, whereas middle-sized farms keep on average 10,000 cows. Housing dairy cattle is challenging due to the extreme heat. "Fogging systems" help to keep temperatures at acceptable levels.

Management of these farms is advanced and resources are available. Production is very intensive and milking takes place according American standards. All animals in the Kingdom of Saudi Arabia are slaughtered according to the methods prescribed by Islamic law, Sharia.

Beef cattle are kept in smaller numbers. Farms have on average 4,000 heads. Housing is comparable to that of dairy cattle, and the management is good.

Pigs are not kept in Saudi Arabia for religious reasons (Sharia).

Saudi Arabia has large companies with laying hens and broilers, keeping birds under similar conditions as in the EU.

Saudi-Arabia has a small number of fish farms with reasonable production levels and a large project for the production of shrimp in the Red Sea.

Camels and sheep are kept in very intensive systems for the production of milk and meat. Most systems appear to have an unprofessional set-up. Camels are transported in various types of trucks, which normally have a crane to load and unload the animals.

Turkey

Turkey has around ten million head of dairy cattle. Open (large areas or pasture) and closed stables (no cubicles, but the animals are also not tethered) are the main housing conditions. Modern farms which belong to large-scale dairy processing companies have a capacity of between 100 and 300 heads. These farms are more or less comparable to farms in the EU. On the other hand, many small farms have between 5 and 10 animals.

The modern farms have their own professional managers, veterinarians etc. The management of large farms is comparable to that of the Netherlands (regarding health and feed) to ensure high production levels. The small farms have no management system and low production levels. On the small farms cows are part of the family.

They are (financially) important and hence taken good care of. The environment is primitive. No surgical interventions like dehorning are undertaken on the smaller farms. Turkey covers a large area and has many variations in climate. Lack of water can be a problem. Animal diseases are one of the country's biggest problems (foot-and-mouth disease, tuberculosis, brucellosis etc.). This problem is due to a lack of knowledge (farmers and cattle-traders), and the suboptimal functioning of governmental agencies. These problems, however, mostly occur on the smaller farms.

Animals are transported by truck over distances of between 50 and 900 km. Illegal animal movements across the borders (with countries like Iran, Iraq and Syria) appear to take place. Many animals are transported during the Festival of Sacrifice. Local transport often takes place on open trailers. Many animals are transported in trucks similar to the ones used in the Netherlands. Animals are mostly slaughtered in slaughterhouses although the slaughter of sheep and cattle during the Ramadan period may take place in unauthorised places.

Few, if any pigs are kept in Turkey (which is a Muslim country).

Laying hens are generally kept in closed houses (batteries); the breeds are mostly imported from the Netherlands, Germany and Great Britain. Houses are modern. Laying hens may suffer from Newcastle disease. Animals are usually transported by truck, often being brought to modern slaughterhouses. Spent layers (old hens) are also regularly sold to citizens.

The Turkish broiler sector is considered to be the most modern sector in the animal-husbandry industry. Its standards are even higher than in many EU countries (modern techniques from Western Europe and farms are relatively new), with apparently no minimum regulations. There are also modern poultry processing plants with their own houses or contracts with large-scale firms. Under these contracts, feed, medicine and modern management are supplied. Health issues are, however, still present, including Avian Influenza and Newcastle disease. Animal welfare problems are probably similar to those in the EU. Transportation is, again, conducted by truck, and modern slaughterhouses are used.

Fish is farmed with modern management techniques in Turkey. Transportation is in thermally controlled trucks, and processing is conducted in modern plants.

Sheep and goats are kept for their meat and milk. The situation is comparable to that of cattle husbandry. There are large and small farms, and the animals may be kept outside on grasslands.

Horses are used for professional horse-racing, which is a popular sport, and not for meat production.

Donkeys are used as draught animals (in the countryside) and it is claimed that they are well taken care for (if not, the animals will die and people lose their transportation possibilities).

UAE

Dairy cattle are kept in large numbers in the United Arab Emirates, in both intensive and extensive systems. Balanced feeding and climate control are present. The management of dairy production is regulated by the Ministry of Environment and Water (MOEW, the Veterinary and Animal Health Department). All farms receive veterinary health care, and production is good. Transport is under the control of the municipalities and the Ministry, and the IATA Convention. Slaughter is conducted according to Halal methods.

Beef cattle are kept in small numbers, and in more extensive housing systems. Management is good (e.g. group size), and regulated by MOEW. The beef cattle industry is comparable to the dairy cattle industry. Halal slaughter is practised.

Being an Islamic country, the United Arab Emirates has no pig farming industry.

Laying hens are kept in large numbers, in intensive cage systems. Management (group size) is regulated via MOEW, FCA and the Poultry Committee. Here too, balanced feed and climate control are available. All farms are under veterinary control and Fowlpox may affect poultry. The production of laying hens is good. Transport is, just as in the cattle industry, under the control of the municipalities, the Ministry and the IATA convention. Halal slaughter is practised. The broiler industry is comparable to the layer industry.

As the United Arab Emirates has developed rapidly with significant contributions from their major oil industry and an expanding tourist industry, the commercial fishing industry has declined rapidly in economic importance. There is no major aquaculture industry in the country. There is one small commercial and experimental facility near the Emirate of Umm Al Quwain (Marine Resources Research Center). For more information about aquaculture see Section 5.4.13.

The UAE has large numbers of sheep and goats, which are kept under both intensive and extensive conditions. Practices and regulations are comparable to that of the other farm animals. The production levels in sheep and goats are medium and slaughter is conducted according to Halal procedures.

3.5.3 *Perceptions of animal welfare in the Middle East*

Iran

Iran is not a member of the WTO and is internationally isolated. It faces a (trade) boycott from the UN due to development of its nuclear technology. The income of its citizens is lower compared to the Netherlands. Animal welfare is not an important issue. Maximising revenue is given the highest priority by Iranian farmers, slaughterhouse owners and transport companies. However, several potential welfare issues can be identified, e.g. the poor, non-specialised transport methods for cattle. Farmers complain that their newly bought cattle give less milk than expected, which they believe is due to transport stress. Poultry (including turkeys) and live fish are also packed for transport. The stunning of poultry is less of a welfare concern than transport. In fisheries it is common to leave the catch on the ground to perish naturally.

Overcrowding of farm animals (cattle, ostriches) is not frequent and, due to arid climatic conditions, barn floors are typically dry resulting in adequate barn floor hygiene and welfare for cows.

Only a few very limited NGOs have tried to raise some public awareness about animal welfare in the pet sector. This includes cats, dogs and goldfish, specifically. There is also a newly formed group of pet lovers who have started a charity pet orphanage in Teheran.

There seems to be little awareness of animal welfare issues or regulations on the subject. The main reason why Iranians treat their animals in a fairly acceptable way seems to be the Old Persian culture of a love of animals and Islamic tenets whereby the good treatment of all animals has been recommended in the Koran (the longest Chapter of the Koran is named after The Cow) and sayings by the Prophet Mohammed.

Israel

In general, the system of protecting animals is very well advanced and its development is being furthered by numerous NGOs. Nevertheless, one of the problems Israel faces is the large numbers of stray animals, especially cats and dogs. Animal welfare is, however, considered to be a public issue as well.

For cattle there is some interest in advanced technology which can be used to achieve respectable production levels. The religious regulations of Judaism require animals (cattle and poultry) to be completely healthy at slaughter. Poultry receives little media attention, as do pigs. The eating of pigs is forbidden in both Judaism and Islam. Apart from the recent closure of fish farms in Eilat, due to the pollution of the coral reefs, there is (virtually) no media attention concerning farmed fish. Geese, in contrast, receive attention. Farms that were specialised in hatching and fattening geese for the production of *pâté de foie gras* were closed down by the Israeli parliament in 2006, although Israel used to be the fifth largest producer of *pâté de foie gras*.

Animal rights groups oppose the use of laboratory animals. Media attention for pet animals is moderate.

Organisations involved are Four Paws, CHAI, SPCA, Noah, and Let the Animals Live.

Wild animals also receive media attention. Public awareness of nature preservation is promoted in schools and among the population through guided excursions, publications and information campaigns organised by Keren

Kayemeth Le Israel (KKL) and the Israel Nature and Parks Authority (INPA). Their policy is based on restricting the hunting of wild animals. INPA has special rescue operations to ensure the survival of endangered species. Protected animals are gazelle, ibex, leopard and vulture. There are feeding stations for wolves, hyenas and foxes, and safe nesting sites for birds. Moreover, bird migration routes are monitored to prevent bird-aircraft collisions. 'Hai Bar' wildlife projects in the Arava and on Mount Carmel have been set up to reintroduce animal species like ostrich, Persian fallow deer, oryx, onager and Somali wild ass.

The presence of many active NGOs, organised mainly by Israeli citizens, indicates that animal welfare is a topic on the agenda of the community. Also, the government is willing to try to enhance the living circumstances of animals as indicated by its advanced legislation. In general, it seems that animal welfare and health is at a satisfactory level in Israel. Israelis love animals and keep many pets compared to neighbouring countries. For farm animals that are eaten by the Israeli people, the predominant Judaism requires that the meat should come from a completely healthy animal. It seems that animal welfare may be enhanced by religion in Israel.

The Ministry of Agriculture is responsible for implementing the law and the Ministry of Environment appointed trustees to file complaints against offenders. Yet, some NGOs such as CHAI, question the willingness of the government to enforce rules and laws such as the law against animal experimentation.

Saudi Arabia

Animal welfare as such is not really a public issue. However, since Saudi Arabia is a member of the WTO, they are concerned with ways of achieving the norms of international requirements. If animal welfare were an issue in society, it would be from religious reasons. Information concerning the treatment of animals is provided in the following sections of the Hadith books narrated by the Prophet Mohamed (PBUH):

Good attitude even in slaughter and killing and sharpening of large knife;

Providing water to animals to drink;

Beating animals;

Slaughtering tools;

Hunting.

The Muslim commitment to the PBUH is the same commitment as to the Koran. Consequently, slaughter practices for all animals in Saudi Arabia are governed by Sharia law. Animals should be slaughtered with a sharp knife so that the jugular vein is cut with the minimum possible pain and the skin should not be removed and limbs should not be cut as long as there is any sign of life in the animal.

Animal welfare does not appear to be an issue for policymakers in Saudi Arabia. It is assumed that a Muslim person will take sensible welfare measures, e.g. in relation to food and water for animals, and Halal slaughter. This is common knowledge and taught to youngsters in school. However, Mohsen Elbahaie of the Agricultural Service in Saudi Arabia wonders, for instance, whether the practice of milking cows four times a day may have a negative impact on cow welfare.

The certification and labelling of Halal feed and Halal slaughter are in the interest of farm animals. Farmed fish are mentioned in the media in relation to the pollution of sea water. No animal welfare organisations appear to be active, but there are a few individuals who defend marine life in the Red Sea and they are active in bringing this to the attention of policy makers. Wildlife protection and development is, in contrast to farm animals and fish, a major issue. There is certification and labelling, and the NCWCD (National Commission for Wildlife Conservation and Development) is active in this field. Policy and research also focus on wildlife.

Driving forces underlying current farming practices in Saudi Arabia which could affect animal welfare appear to be mainly related to religion, food security, safety and economics. Considerations underlying regulations regarding animal welfare appear to be firstly of a religious and secondly of a commercial nature.

Enforcement of religious rules principally requires a personal commitment. There is no control by the government or NGOs. Animal welfare does not seem to be a major concern for society or the government, although it may be overlooked. In order to promote animal welfare a religious reason must be found in order to attract everyone's attention and such initiatives are being developed in The Kingdom of Saudi Arabia.

Turkey

The Agricultural Service in Turkey perceives the following animal welfare issues that have to be taken care of concerning animals in Turkey:

Shelter and housing;

Ensuring their needs (e.g. food);

Animal health;

Setting standards for transport.

Many cats and dogs are homeless. Every city has its own shelter, but the available space is insufficient, and ensuring food and other needs of the homeless animals is difficult. Moreover, vaccination against rabies is very important and a programme for this has been started. Standards of transportation must be improved for farm animals. In addition, space requirements for laying hens in battery cages may require attention.

Animal welfare is an issue in development in Turkey, for all farm animals. The media are mostly interested in homeless cats and dogs, and in animal health for cattle. An Identification and Registration programme for cattle, however, started in 2001. Policies are generally aimed at the prevention of diseases (FMD, Tuberculosis, brucellosis etc.). Research concerning farm, laboratory, and pet animals is mainly conducted by the veterinary faculties of various universities.

Religious concerns focus on the slaughter of cattle, sheep and goats by Muslims according to Islamic rules during the period of Ramadan.

Laying hens receive limited media attention, some of which is concerned with the quality (health) of the products (eggs) for consumption. No certification or labelling appears to have been developed for animal welfare.

However, the Turkish Egg Producers Association has been founded and, since Turkey is one of the biggest egg producers in the world, a good image is important for the food industry.

Due to the Avian Influenza disease, there is a great deal of media attention for broilers. It seems that no certification or labelling for broiler products has been developed. For broilers there is, just as for laying hens, also an organisation in place – the Turkish Poultry Association (BESD-BIR). The broiler industry is one of the most developed sectors in Turkey, and its annual production of around 1 million tonnes makes it an important industry for the Turkish economy.

Farmed fish receive limited attention from the media, and any attention focuses mainly on the impact on the environment instead of on fish welfare. Since farmed fish are mainly exported to EU countries, it is an important sector for the economy.

Laboratory animals receive no attention at all, but they are used in Turkey. In fact, the media concentrate primarily on pet animals (cats and dogs). All animals have to be registered with the provincial municipalities, and have to wear collars. This registration is necessary due to the large number of stray animals. Voluntary activities are mostly carried out by NGOs, and CITES rules apply in Turkey. Furthermore, pet animals are protected by the religious rules. Pet food, pet medicine and pet products are an important market in the larger cities where people's incomes tend to be higher.

Wild animals like pheasants and deer also receive considerable media attention concerning animal welfare. The policy of the Ministry of Environment and Forestry is to protect endangered species. Welfare issues relate to nature conservation (especially wetlands) and endangered species (especially birds). If habitats are protected, the animals living in them are also protected. There are National Parks and Special Protection Areas in Turkey. Turkey still has a considerable number of natural areas (the Netherlands is considered to be more or less like a 'park') where there has been no human interference. There are only a limited number of watery areas in the country, so protecting these wetlands is important for the animals (birds), but also for people and industry. Consequently, complete areas are protected rather than individual animal species. Moreover, NGO lobbying has been relatively effective. For example, dancing bears were once a common sight in tourist areas of Turkey but due to WSPA activities in collaboration with the Turkish government in 1992 the custom of dancing bears stopped as complaints from tourists about animal welfare increased.

Animal welfare is a developing issue and health is important. Animal welfare may be defined as a good quality of living conditions with healthy methods. The fact that welfare is becoming an issue may be due to Turkey's economic growth, its ambitions to become a member of the EU and perhaps also due to (better) education and the media (more people are watching TV). Concerns are more prevalent in urban areas. The perception in society is that animals must be treated well. They have to be supplied with enough food and water, a clean environment and they should have enough freedom to move around. This perspective is supported by voluntary and active NGOs, and by the provincial municipalities. The Turkish government has started to harmonise its legislation with the relevant EU directives. Its main considerations are the lack of knowledge and good education.

Unfortunately implementation of some regulations fails to match current practices. The main reason for this is a lack of enforcement. The root of the problem may be the educational system. However, veterinary education in Turkey which began in 1842, now (over the last 4 years) has animal welfare included as a separate course in the curriculum of veterinary faculties.

Also there is no check on the registration of dogs and cats, especially in the countryside; not all pet animals are registered. Many regulations appear to be more carefully enforced in urban areas compared to rural areas. During the accession process with the EU, many things have changed in Turkey. Turkish people may follow the European trends if they really believe in them. Turkey also has to fulfil certain trade obligations and consumer demands from the EU, as the EU is the main trading partner of Turkey. The EUROPGAP is a good example of this trend in the horticulture sector. Since Turkey has been a candidate country targeting full EU membership, all requirements will have to be fulfilled eventually. Thus, EU-membership, economic growth and greater awareness of welfare issues may be trends towards increased concern for animal welfare in Turkey.

UAE

The UAE is a member of the WTO. Consequently, the UAE considers how international requirements can be complied with. Food safety, economics, ethics and religious considerations are the underlying principles for regulations regarding animal welfare.

Animal welfare is defined as the fulfilment of all the requirements for keeping animals under proper healthy conditions and supplying them with suitable feed and water without exposing them to any type of harm. In fact, according to the citizens of the UAE, animal welfare is not an issue; because of the prevailing religious rules, most people are aware of animal welfare. People act according to (their interpretation of) Islam and their perception is that their animals are treated well. Healthy animals are important to them. Religious rules and animal welfare rules reinforce the above perspective. Moreover, the climate in the UAE is the driving force underlying the current farming practices that could affect animal welfare.

Samar Kadri of the Agricultural Service perceived the following welfare issues to be of importance:

Building and amenities;

Animal transportation and treatment;

Animal exhibits;

The use of animals for scientific purposes.

These issues do not have to be present per se, but they may require attention. Due to the warm and dry climate, shade and ventilation are important. Animals are transported in general-purpose trucks, and this may be an issue.

Animal used in exhibitions are not really a welfare issue presently, but according to the animal Welfare law No (16) for the year 2007 and its by-law no 384 for the year 2008, exhibitors must apply for permission with the MOEW and cover all the welfare aspects before, during and after the exhibition.

Animal welfare is considered to be an issue by the people living in the UAE. Issues concerning farm animals and deer can be observed in the media. Certification and labelling is regulated via the Municipalities and the MOEW. There are also some private organisations which pay attention to cattle welfare. Federal and local laws relate to animal welfare, and Islamic rules also consider animal welfare issues. Laboratory animals receive similar attention to farm animals; the organisation involved is the UAE University. Research on these animals is for teaching purposes only. Pet animals like dogs and cats are given the same type of attention as farm animals.

Regulations are fairly new in the UAE. At present, there is a federal law for animal welfare that will be applied and modified in future to support animal welfare rules. Public awareness is the most important issue for federal law and animal welfare: it should be achieved through actions (information) on the part of the government. The ministry and the municipalities are involved in creating public awareness through the media including radio and TV programmes, lectures, workshops and newspapers. Television is becoming more important in providing information.

3.6 Discussion and conclusions: a global impression

Methodology

This chapter contains the report of a survey of animal welfare in general on a global scale. The two main sources for this chapter were a preliminary literature search by Bracke et al. (2008) and a questionnaire survey of the Dutch Foreign Agricultural Services. In addition, data were obtained from various other sources such as websites and conferences. Before discussing the content of the chapter and the overall conclusions, some methodological points have to be addressed, which should be taken into account when interpreting the results.

Firstly, the subject area (describing the regulations, practices and perceptions on the welfare of all kinds of species across the world) is of considerable size. Within the limited space of this report it has not been possible to do more than address some main points for each region and country. There are many more details which could be obtained to provide a fuller picture, but this will of course take more time and effort.

Secondly, the respondents to the survey have a broad interest and knowledge of the agriculture in their country and region, but are not primarily involved in animal welfare science or politics. This creates a dilemma when reporting their views. Scientific standards would require that sources are verified and listed, but within the time frame and resources of this project this was not possible for all the input received. The authors have chosen to report what they consider to be reliable information, but would like to add a word of caution as to the interpretation and implications of some of the feedback to the survey.

In order to address these methodological points the authors suggest that further research should build on the observations presented in this report, by involving experts in the field of animal welfare from the regions discussed. The aim would then be to obtain more transparently referenced materials, supported by published data and written by independent authors. A possible method which could be used is the Delphi method (see Anonymous, 2001). The authors also recommend narrowing down the scope of such a study, allowing resources to be efficiently focused on priority areas.

Welfare regulations

The survey data and the other information in this report generated information about animal welfare regulations in 19 countries (see Annex XII for an overview). This is, of course, only a limited part of the world. We obtained information about welfare legislation or regulations concerning kept and wild animals such as national or regional legislation, codes of practice, voluntary and private standards, and sector regulations. Countries where we found data on welfare legislation and/or the protection of farm animals were Egypt (Penal Code), South Africa (Animal Protection Act), the United States of America (Humane Methods of Slaughter Act), the Philippines (Philippine Animal Welfare Act), South Korea (Eco-Friendly agriculture upbringing law), and Thailand (Notifications about raising, transport and slaughter and a Good Manufacturing practice for Abattoirs).

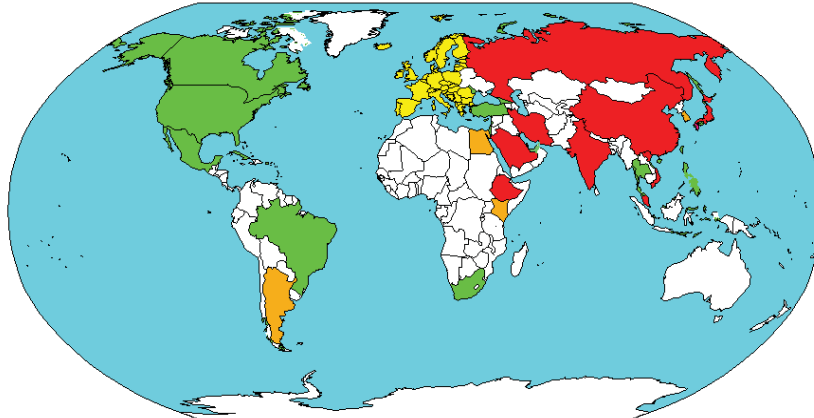
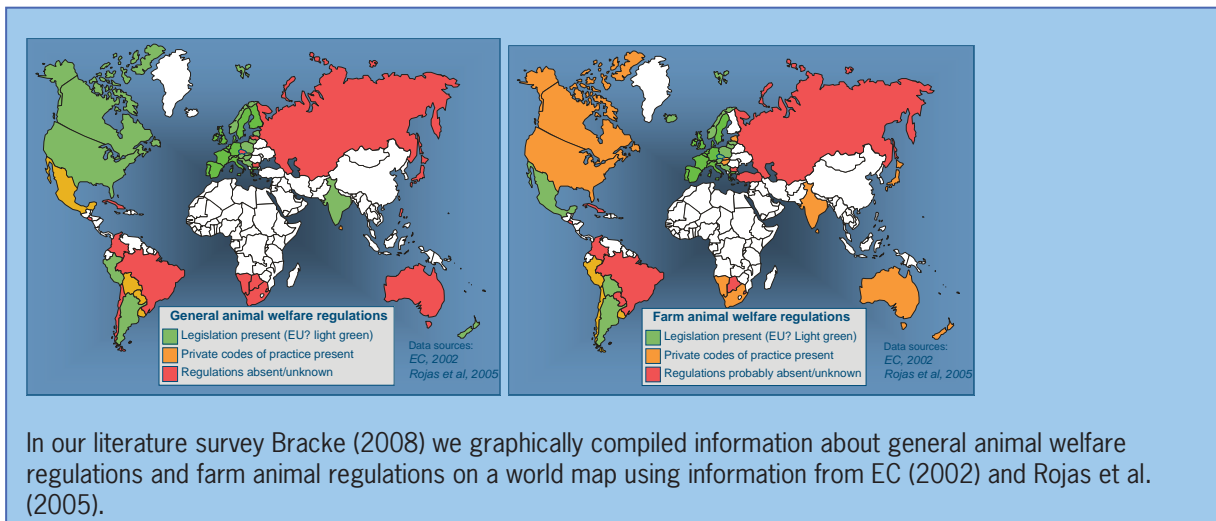


Figure 3.10 Tentative overview of general animal welfare legislation. Green countries have some legislation on animal welfare, orange countries have only limited legislation on animal welfare and red countries have no legislation on animal welfare as far as we know. Yellow countries identify the EU which was not covered in this study and for countries in white we have no data.

Figure 3.10 is an attempt to visualise the status of legislation about general animal welfare (see Annex XII for an overview). An assessment of the level of enforcement is inevitably subjective, and rather difficult to provide. Our general impression is that enforcement is particularly strict in regions where economic dependency on biodiversity and wildlife is great (e.g. some African countries) or when biosecurity measures need to be followed up for international trade purposes (e.g. South East Asia). In most regions however, it appears that the level of legislation as well as its enforcement is positively related to the countries material wealth.

The information collected on animal welfare regulations complements what we had previously collected (see Text box 3.5). While the information is difficult to compare, our impression is that, together with increased global attention for animal welfare (OIE guidelines, international conferences), world-wide animal welfare regulations are being considered and may be or become a topic for the future.

Text box 3.5 Animal welfare regulations worldwide



In our literature survey Bracke (2008) we graphically compiled information about general animal welfare regulations and farm animal regulations on a world map using information from EC (2002) and Rojas et al. (2005).

Farming practices

To give an overview of worldwide farming practices in a few pages of text is not an easy task, as practices vary greatly between regions as well as within regions of the world. This report therefore only touches on some general trends, or occasionally on specific points for a given region. Several factors appear to have an impact on farming practices (including fish farming) which vary across the globe.

Industrialisation, for example, increases intensive farming and reduces the use of draught animals. A widely used distinction is between small (family/backyard) and large (intensive) farms. Since welfare is difficult to assess, different points of view appear to exist as to the question whether modern farming is providing better welfare conditions compared to the smaller old-fashioned farms. Masiga and Munyua (2005) reported that large commercial farms in Africa keep animals in poorly constructed environments restricting animal movement and reducing the quality of human-animal interaction seen in traditional (small-scale) farming. Historic conditions may also affect regional farming practices. Russia, for example, developed large-scale agricultural farming during the Soviet period.

Religious factors affect farming practices in many countries. Pig farming, for example, is absent in Islamic regions of the world. Cows are considered sacred by Hindus and are therefore not slaughtered in India.

Text box 3.6 Animal welfare and religion

The question is raised if animal welfare concerns are a typical Western affair. A study of world religions (Buddhism and Jainism, Christianity, Hinduism, Islam, Judaism and modern western movements like humanism, holism and new age) shows that this does not appear to be the case. Within all religions respect for animals is an important item and it covers all Five Freedoms. Practices, however, may differ from what religions prescribe. This suggests that religion may not be suitable for an international strategy to improve animal welfare, however it is certainly a factor to be taken into account.

Source: Van Geffen et al. 2004

Climate differs considerably across the globe and can have a huge impact on production and animal welfare. In the hottest and most developed countries (e.g. Israel and Saudi Arabia) the larger farms have implemented climate control systems, while the smaller farms often lack these systems. This could be a serious welfare problem. Solutions lie in the use of more robust, traditional breeds that are adapted to the climatic conditions (Bosch, 2009). Alternatively, animals must be kept under conditions that allow coping responses (e.g. shade from trees for dairy cattle, wallowing for pigs, more space per animal).

For farm animals, transportation and slaughter are two frequently identified welfare problems (see also Text box 3.6). Animals may have to travel large distances and/or are placed in overcrowded crates or overloaded trucks and the chosen means of transport may not have been designed for animals. In some countries abattoirs may also be either absent or in a very bad state. It appears that municipal abattoirs in particular (as opposed to large company-owned abattoirs) have a rather bad track record in terms of human health and animal health and welfare (Cointreau, 2009). Finally, transportation of live animals is a considerable issue too, e.g. concerning long-distance travel, stocking densities for vehicle design and animals unfit for travel (Corson and Anderson, 2008).

Text box 3.7 Long-distance transport and animal welfare worldwide

Rahman et al. (2005) reported that in **Asia and the Far East** overloaded trucks, rough handling during slaughtering (without stunning and animals watching other animals being killed) and malnutrition are common practices. In China, live animal transport is increasing due to the increasing urbanisation, rising meat consumption especially among urban populations, the long distances between some significant areas of production and consumption, a preference for freshly killed meat and a reduction in localised production (Rahman et al., 2008).

Due to its arid climate countries [in] the **Middle East** have difficulty in being self supplying in meat. They have to import meat over long distances, and coupled to the traditional slaughtering method they need live animals (Rahman, 2008).

Concerning the distances travelled within **South America**, there is a large variation according to Gallo and Tadich (2008). It is common that animals have to travel 1-12 hours, but 60 hours also occurs.

In a report about **North America** it has been noticed that animals may be transported across multiple states, regions or provinces and across national borders for fattening and slaughter. Some may be moved across national borders for slaughter only for the meat then to be shipped back to their country of origin for consumption (Engebretson, 2008).

Concerning **Africa**, animal welfare issues common to long-distance transport include poorly developed and degraded infrastructure, a lack of enforcement of national legislation where legislation governing livestock transport exists, and inhumane handling of livestock throughout the production chain. In South Africa however, NGOs appear to have a positive impact on livestock transport and slaughter (Menczer, 2008).

Animal welfare perceptions

There is no worldwide consensus about the definition of animal welfare, not even among ethologists (Anonymous, 2001; Text box 3.7). Van Geffen et al. (2004) stated that worldwide communication is difficult due to differences in interpretation. Moreover, the way in which humans treat animals may be based on their views of themselves as well as of the living environment around them (Oldendaal 2005). Thus, perception of animal welfare will vary between countries, between urban and rural areas and between rich and poor citizens (Wilkins et al. 2005). Several respondents referred to the Five Freedoms formulated in the UK (Brambell 1965; Farm Animal Welfare Council, 1992) to define animal welfare. Several respondents also identified a difference between animal welfare and animal rights, the latter being the more extreme with respect to protecting animals.

The OIE defined animal welfare as follows: *“Animal welfare means how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour and is not suffering from unpleasant states such as pain, fear, and distress. Good animal welfare requires disease prevention and veterinary treatment, appropriate shelter, management, nutrition, humane handling and humane slaughter or killing. Animal welfare refers to the state of the animal; the treatment that an animal received is covered by other terms such as animal care, animal husbandry, and humane treatment.”*(OIE, 2008).

*Text box 3.8 Definitions of animal welfare*Definition of animal welfare used by the Dutch government

“The Five Freedoms, originally defined by Brambell (1965) and later adapted by the Farm Animal Welfare Council (1992), are the basis of the legal framework concerning animal welfare in the Netherlands. These freedoms state that animals should be:

free from hunger and thirst

free from discomfort

free from pain, injury and disease

free from fear and distress

free to express normal behaviour

Most attention is given to the first three freedoms. Improvements concerning these freedoms are also often related to a higher production and therefore easy to implement. Legislation concerning the last two freedoms does not necessarily give the producer an advantage and will therefore damage their competition position.” (Van Geffen et al. 2004)

Definitions of animal welfare used globally

“Some definitions of animal welfare concentrate on the idea that decreased welfare results in pre-pathological states (Moberg, 1985). Others concentrate on features as stress, coping, fitness and adaptation (e.g. Broom, 1986); on predictability and controllability of the environment (Wiepkema, 1982); on harmony with the environment (e.g. Lorz, 1973; Hughes, 1976); on emotional states, wants, subjective feelings, and suffering (Dawkins, 1988; Duncan & Petherick, 1991, Sandøe, 1996) or as the quality of life as perceived by the animals themselves (Bracke 1999a). These concepts range from more objective definitions to the more subjective concepts. Objective definitions relate welfare directly to scientifically measurable parameters (e.g. Broom, 1986). They tend to emphasise the importance of biological functioning such as survival, normal behaviour and physiology, and reproductive success as indicators of how well the animal is able to meet the challenges posed by the environment. By contrast, subjective definitions define welfare in terms of subjective emotional states of animals such as hunger, pain, fear, frustration and pleasure which animals experience (e.g. Dawkins, 1988, 1990; Duncan, 1996). These definitions relate more directly to animal ethics and societal concern about animal welfare.

While there is still no universal agreement among scientists on exactly how to define animal welfare, there is a considerable degree of consensus on a number of items. For example, sentience is generally accepted as a necessary condition for welfare. ‘When people express concern about animal welfare, it is precisely the conscious experience of suffering that worries them most’ (Dawkins, 1998, p. 306). Non-sentient objects like machines, computers or plants do not have a welfare status, at least not in a sense that is relevant in a socio-political context (Stafleu et al., 1996).

Furthermore, it is widely recognised that subjective definitions cannot be measured directly (Mason & Mendl, 1993); that an animal’s welfare state can range on a scale from very poor to very good; and that multiple scientific measures are necessary to assess the overall animal welfare state (i.e. that welfare is multifaceted and requires taking into account different aspects, e.g. the different biological needs of the animals).

There are also regional and disciplinary differences between scientists concerning welfare assessment (e.g. between ethologists, (stress)physiologists, veterinarians and animal psychologists; between scientists paid by governments, NGOs and industry; between NW-EU and South EU (and new Member States); between EU and North America and Oceania). In other countries other definitions may be used. For example, in Germany traditionally the terms Tierschutz (animal protection) and/or Tiergerechtheit (Animal-suitedness) are being used. The latter relates to the concepts of Bedarfsdeckung und Schadensvermeidung (Need-coverage and harm avoidance; Tschanz, pers. comm.). In the US, for example, poultry are sometimes not recognised as ‘animals’ in that ‘animal science’ is commonly regarded as distinct from ‘poultry science’, and people may call themselves vegetarians while continuing to consume poultry meat. In the US also a sharp distinction is made between animal welfare (humane treatment, HSUS) and animal rights, which represents a more extreme view (Tom Regan, PETA).” [Bracke, 2008].

A number of respondents to our survey stated that citizens and governments are not aware of animal welfare issues, or do not perceive animal welfare as an issue. This is in contrast with their own perception that there are welfare problems which need addressing. Examples of these issues which are named more than once are the transportation of animals, the presence of animal diseases and zoonoses, and the use or abuse of draught animals.

Figure 3.11 gives a graphic presentation of public awareness regarding animal welfare world wide. The number of NGOs in the various countries seemed to co-vary with the attention given to animal welfare, but not with the perceived magnitude of welfare problems (e.g. Israel has many NGOs; India has relatively few; Egypt has surprisingly many: 11 active NGOs were reported).

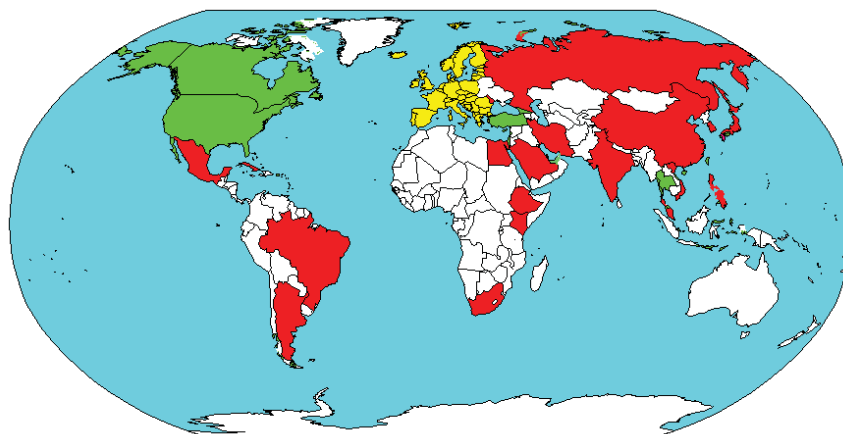


Figure 3.11 Tentative overview of public perceptions of animal welfare worldwide. Countries in green represent communities perceiving welfare problems to be an issue, whereas countries in red represent an apparent absence of welfare concern. The public perception of animal welfare issues of countries in white is unknown. Yellow countries represent the EU which was not covered in this study.

Driving forces for citizens and governments to ignore animal welfare issues are public health, hunger, safety (e.g. Ethiopia, South Africa and Korea), lack of ability to enforce legislation and/or economy in general (e.g. related to export). NGOs try to educate local citizens in dealing with such topics as animal health problems.

Religion may have a considerable effect on how welfare is perceived and practised. In India, for instance, the Hindu culture forbids the killing of animals (although lower castes eat meat). Consequently, the abandonment of cows and the tying up of bull calves without drinking water (to leave them to die from dehydration), in particular, is common practice. Furthermore, Jewish and Muslim religions appear to prescribe that animals must be conscious at the time of slaughter. Moreover, in most (if not all) Muslim countries, rules for slaughtering are set by religion, not by the government. Muslim people frequently state that slaughtering according to Halal is humane (Aidaros, 2005), but others dispute the welfare advantages of Halal slaughter (Dijkman, 2008; Anil et al. 1995, 2006). The issue of religious slaughter is one of the many sensitive issues related to animal welfare generally. Bogaert (2008) has written an article on animal rights in Islam (*Dierenrechten in de Islam; Centrum voor Islam in Europa*, 2008). It explains citations from the Koran about different subjects (general ecological perspective, animal characteristics, the relationship between man and animal, the Islam about animal welfare, the Islam and food, and an overview of animal rights). In conclusion, Bogaert (2008) states that within the Islamic culture man is considered equal to animals, setting a number of rules that regulate the relationship between man and animal. These rules focus on ensuring the physical, mental, social and emotional integrity of the life of animals. The regulations are set in such a manner that being kind to animals will eventually help mankind itself. However, today's practices in Muslim countries are sometimes considerably different from this legal and theological framework, according to Bogaert.

Animal welfare and international trade

The international debate about animal welfare has also reached global companies who are setting up standards and/or guidelines (information obtained from websites). For example, H&M decided to ban merino wool from Australia due to the practices of musing (cutting away the skin to prevent fly strike). In addition, several large fast food chains have guidelines for their meat products. Kentucky Fried Chicken (KFC), for example, has farm level and processing guidelines set up by their Advisory Council. They prohibit beak trimming of chickens and the use of hormones and steroids, and demand that the birds should be able to roam freely throughout the shelters and be slaughtered humanely (stunning before killing). In addition, all farms are audited twice every year. Similarly, McDonald's has an Animal Welfare Council to advise them about animal welfare topics. This has led to a number of principles that their suppliers have to adhere to (e.g. animals should be free from cruelty, abuse and neglect). Farms and processing plants are audited to ensure compliance with the rules. McDonald's also focuses on some major issues such as the keeping of sows in gestation stalls (which McDonald's is opposed to). Currently, in the

USA 15% and in Europe 65% of their pork meat comes from these farms. The ice cream brand Ben & Jerry's also has guidelines for farms supplying their milk. In the USA this company does not allow cattle to be treated with recombinant bovine growth hormone and in Europe they have the Caring Dairy programme, which means that all their milk comes from sustainable dairy farms, where animal welfare plays a role as well as other factors.

OIE standards have been adopted (but not always implemented) in most countries (World Organisation for Animal Health OIE, 2008; see also Text box 3.9). In some countries with welfare legislation, law enforcement appears to be a problem (e.g. in Argentina and Vietnam). Several respondents mentioned welfare problems in the absence of regulations, and that enforcement would be a problem. Many poorer countries simply do not have the manpower and resources to enforce any rules. Although pet animals, for instance, are more or less protected by legislation in the more developed countries, there are practices still in existence which represent welfare issues (e.g. illegal dog fights in the USA). In line with this, Rahman et al. (2005) reported that the efforts of these governments are too limited, in spite of the presence of Animal Welfare Boards established by governments and enacting laws to prevent cruelty to animals.

Text box 3.9: Illustration of the EU's position on animal welfare in the World Trade Organization

"The EC does not want to turn back or neglect the need to use trade to improve world prosperity, in particular the prosperity of the least developed countries. Our concerns with animal welfare are most acute in relation to highly-intensive and industrialised production methods for certain species, in particular poultry and pigs. This type of production is most often found in developed rather than developing and least developed countries."

"We fully recognise the complexity of this issue, and the fact that each WTO member has the right to choose its own animal welfare measures adapted to their own circumstances. Nevertheless, the impact of trade liberalisation on animal welfare, in particular the welfare of farm animals and the transport of live animals, cannot be denied. WTO members should not hamper trade in agriculture and food products because of animal welfare. But equally, it is important to secure the right of those WTO members that apply high animal welfare standards to maintain them."

"We are of the view that animal welfare should be globally addressed in a consistent manner within the WTO. The debate in recent times has shown very clearly the need to establish common ground and understanding on this important issue. That is why the EC wishes to raise animal welfare as an important non-trade concern in the current negotiations."

Source: EC 2002

Text box 3.10 Animal welfare within international organisations and NGOs

“Animal welfare within international (multilateral) organisations

In the WTO the question is raised about whether animal welfare demands can go hand in hand with commercial law. According to commercial law it is not allowed to discriminate between products of national origin and equivalent products from other countries. This means there cannot be a differentiation on production methods and therefore import cannot be barred on the basis of animal welfare.

The OIE has put animal welfare on their agenda. The organisation has established ad-hoc groups for transport of animals, killing for disease control and human slaughter (including ritual slaughter) and has drafted guidelines on these subjects that were adapted unanimously by its member countries in 2005. Recently, October 2008, the OIE convened in Egypt to discuss implementation of its standards (see OIE website for more information). Progress is made in small steps (on a global scale).

The World Bank has setup a workgroup: Animal Welfare. They are in favour of promoting welfare-friendly products instead of imposing Western standards. They think that certification of products, which are sustainable and humanely produced, can be an incentive for better products. Furthermore, the World Bank supports the activities of the OIE workgroup.

The FAO has also put animal welfare on their agenda. They mainly focus on good farming practice, which has led in conjunction with the Humane Society to the ‘International Guidelines for Humane Handling, Transport and Slaughter’, which are mostly aimed at developing countries. The FAO has been supportive of intensive production systems. In 2007 the FAO published a report ‘Livestock’s long shadow’ in which a detailed account was given of the (mainly) negative impact of livestock farming on environmental issues.

Animal welfare and international NGOs

Two types of NGOs can be discriminated.

- NGOs specifically concerned with animal welfare, which are often federations that lobby, inform and campaign. They focus on all categories of animals, both farm and wild animals.
- Broader nature conservation organisations (WWF, IUCN) that are concerned with wild animals and specifically their habitat and transport.”

Last year (2008) a number of international conferences were organised (e.g. in Belgium/EU, Australia, Egypt/OIE, Ireland/ISAE (Špinko, 2008) and Canada). Clearly international attention for the subject (animal welfare in a global perspective) is increasing. The European Union appears to be a pulling factor and driving force with regard to animal welfare, perhaps setting the trend. If the European Union were to set regulations for imported animal products, several (developing) countries would seem to be willing to follow these rules (e.g. Argentina and Turkey). The possibility of exporting animal products to the European Union is an economic consideration that may stimulate the drive for improvements in animal welfare in these countries. Consequently, while economic factors are a threat to animal welfare locally because poverty may reduce animal welfare or decrease concern for it and because intensified production may increase welfare problems, economic considerations are also an opportunity for improving animal welfare globally. This is in line with Rojas et al. (2005) and Brown and Hollingsworth (2005), for instance. Indeed, globalisation may be becoming a force that is revolutionising international trade, particularly that of animals and animal products (Thiermann and Babcock, 2005).

Text box 3.11 Animal welfare; global issues, trends and challenges (OIE)

“Certain features of animal agriculture remained largely unchanged over time until the mid-twentieth century; humans had provided animals with food and shelter from the elements and from predation, while the animals provided food, fibre and energy in return. The 1950s saw the emergence of two major developments with huge implications for this traditional human-animal relationship. Firstly, animal usage in biomedical research increased dramatically during that decade, and secondly, animal agriculture was industrialised, resulting in a twofold increase in productivity gains over ten years. Previously such increase in productivity had taken 30 years and prior to that, it had taken a century (1820-1920) for productivity to increase at such a rate. The industrialisation of agriculture and increasing urbanisation have isolated the majority of people from contact with agriculture.

Whereas the number of animals used in research is counted in millions, that of those utilised for food and fibre is measured in billions and public attention is being drawn to farm animal welfare issues because of its links with environmental and food safety concerns. While today the public continues to require and accept animal products, it also seeks assurances that animals are not suffering because of this demand.

The second major animal welfare publication in the OIE Scientific and Technical Review series is designed to provide a contemporary, and truly global, perspective on animal welfare. Detailed reviews on historical, current and future approaches to the scientific assessment of animal welfare are complemented by perspectives and updates from the five OIE regions and selected international stakeholders. The publication includes specific chapters on the work of the four OIE ad-hoc groups of international experts which drafted the four sets of animal welfare guidelines adopted at the 2005 OIE General Session (i.e. on slaughter for human consumption, land and sea transport of animals, and killing of animals for disease control purposes). Implementation of the agreed OIE strategic initiative on animal welfare presents significant challenges, as they must ensure that appropriate priorities are identified and that resources are used effectively. In addition to the backing of the 167 OIE Member Countries, it is considered strategically and politically important that other stakeholder groups, including industry groups, NGOs and the World Trade Organization, are also fully supportive of the organisation’s animal welfare role.”

Source: Bayvel 2005

Conclusions

Animal welfare legislation and its enforcement are not a widespread reality at present. Moreover, there are worldwide variations in practices concerning farming and the keeping of animals and regarding wildlife. In many countries concern for animal welfare is not a major issue. Religion and economy play a major role in public perceptions of animal welfare or the absence of these. At the same time a trend may be recognised of increasing attention for global animal welfare issues. Providing policy and legal frameworks (capacity building) and economic incentives (access to global markets) may provide opportunities to further improve animal welfare on a global scale (see also Masiga and Munyua, 2005; Seng and Laporte, 2005).

There is a positive trend of increasing attention for animal welfare issues around the globe. There are different motivations for this:

- The interest in animal welfare can be driven by legislation through public (citizen) concern. Countries in the EU are included in this category;
- It can also be driven by export considerations. These mainly affect animal welfare through health and food safety standards. Latin America and exporting countries in South East Asia are examples;
- In some cases domestic (and foreign) consumers are forcing the production chain to change (e.g. North America).

Some countries in Africa and in Asia may lack these three driving forces. Animal welfare in these countries can most likely be improved if the population can a) be shown how to keep, transport and slaughter animals in an animal friendly way, and b) see the advantages of these measures in terms of such factors as food quality, worker safety and hygiene.

As different countries view the need to improve animal welfare very differently, and because the driving forces for change also differ per country and region, there is a need to create internationally accepted standards. For this, the focus of the international community is on the OIE. The OIE has already developed standards on transport and slaughter, and is encouraged to develop more. The main trading countries in the world suggest that these standards will eventually make their way into multilateral trade agreements, e.g. via WTO.

3.7 References

- Aidaros H.** (2005) Global perspectives – the Middle East: Egypt. *Rev. sci. tech. Off. int. Epiz.*, 24(2): 589-596
- Africa Network for Animal Welfare**, Overview of the animal welfare status in Kenya, www.anaw.org, last visited August 19, 2008
- Anil, M.H., T. Yesildere, H. Aksu, E. Matur, J.L. McKinstry, H.R. Weaver, O. Erdogan** (2006). Comparison of Halal slaughter with captive bolt stunning and neck cutting in cattle: exsanguination and quality parameters, *Animal Welfare* 15: 325-330
- Animal Anti Cruelty League**, www.aacl.co.za, last visited August 19, 2008
- Animal Care Egypt**, <http://www.ace-egypt.org.uk>, last visited August 28, 2008
- Animal Legal and Historical Web Center**, www.animallaw.info/statutes/stusfd49usc80502.htm and www.animallaw.info/topics/spushumaneslaughter.htm, last visited August 19, 2008
- Anonymous** (2001) Scientists' Assessment of the Impact of Housing and Management on Animal Welfare. *Journal of Applied Animal Welfare Science* 4(1): 3-52
- Baracat T. R., Da Silva, T., Nääs, A. and D'Alessandro Salgado, D.** (2008). Brazilian Animal Welfare Legislation Scenario for Broiler, Swine and Dairy Production. *Proceedings of Livestock Environment VIII*, 31 August – 4 September 2008, Iguassu Falls, Brazil 701P0408. Published by the American Society of Agricultural and Biological Engineers, St. Joseph, Michigan www.asabe.org
- Bayvel A.C.D.** (2005) Animal welfare: global issues, trends and challenges, *Rev. sci. tech. Off. int. Epiz.*, 24 (2), 475-477
- Beauty Without Cruelty**, www.bwcsa.co.za, last visited August 19, 2008
- Blanco-Traba, I.** (2009). Auditing in the international context. Presentation at the conference on Global Trade and Farm Animal Welfare, Brussels, 20-21 January 2009.
- Bosch, M.** (2009). Producers. Presentation at the conference on Global Trade and Farm Animal Welfare, Brussels, 20-21 January 2009.
- Blokhuis, H.J., Jones, R.B., Geers, R., Miele, M., Veissier, I.** (2003) Measuring and monitoring animal welfare: transparency in the food product quality chain. *Animal Welfare* 12: 445-455
- Bowles, D., Paskin, R., Gutierrez, M., Kasterine A.** (2005) Animal welfare and developing countries: opportunities for trade in high-welfare products from developing countries. *OIE Scientific and Technical Review* 24(2), 783-790
- Bracke, M.B.M., J.H.M. Metz & B.M. Spruijt** (1999) Overall animal welfare assessment reviewed. Part 1. Overall animal welfare assessment reviewed: Is it possible? *Netherlands Journal of Agricultural Science* 47: 279-291.
- Bracke M.B.M.** (2008) Animal welfare in a global perspective – Draft report of the work in 2007, internal working document of ASG of WUR
- Bracke, M. B. M., S. A. Edwards, B. Engel, W.G. Buist and B. Algers.** 2008. Expert opinion as 'validation' of risk assessment applied to calf welfare. *Acta Veterinaria Scandinavica* 50: 29.
- Brambell F.W.R** (1965) Report of the Technical Committee to Enquire Into the Welfare of Animals Kept Under Intensive Livestock Husbandry Systems, Her Majesty's Stationery Office, London, British Veterinary Association, www.bva.co.uk/profession/overseas/worldwide/taws_kelly_bowlr.pdf, last visited August 19, 2008
- Broom, D.M.** (1986) Indicators of poor welfare. *British Veterinary Journal* 142: 524-526
- Brown, K.H.** (2004a) "A marketplace perspective", in *Proceedings of the Global conference on animal welfare: an OIE initiative*, February 23-25 in Paris, Luxembourg: Office for Official Publications of the European Community, pp. 79-92
- Brown K.H., J. Hollingsworth** (2005) The Food Marketing Institute and the National Council of Chain Restaurants: animal welfare and the retail food industry in the United States of America *Rev. sci. tech. Off. int. Epiz.*, 24(2): 655-663
- Canadian Food Inspection Agency**, www.inspection.gc.ca/english/anima/heasan/transport/infrastructuree.shtml, last visited August 19, 2008
- Caporale, V., Alessandrini, B., Dalla Villa, P., Del Papa, S.** (2005) Global perspectives on animal welfare: Europe. *OIE Scientific and Technical Review* 24(2), 567-577
- CBS NEWS**, www.cbsnews.com/stories/2008/07/31/world/main4311444.shtml?source=RSSattr=World_4311444, last visited August 19, 2008
- Centrum voor Islam in Europa**, www.flwi.ugent.be/cie/bogaert/bogaert1.htm, last visited August 19, 2008

- Clayton, L.A.** (2003). Overview of Brazil's Legal Structure for Animal Issues. Last viewed on 7 February 2009 at <http://www.animallaw.info/nonus/articles/ovbrazil.htm>
- Cointreau, S.** (2009). Animal welfare as a challenge and opportunity for urban public live markets and slaughterhouses. Presentation at the conference on Global Trade and Farm Animal Welfare, Brussels, 20-21 January 2009.
- Corson, S., L. Anderson** (2008) Europe, in Appleby et al., Long distance transport and welfare of farm animals, 355-386
- Da Cunha** (2007) A Brazilian Perspective of Layer Welfare, *World Poultry*, 23 (6)
- Dawkins, M.S.** (1988) Behavioural deprivation: A central problem in animal welfare. *Applied Animal Behaviour Science* 20: 209-225
- Dawkins, M.S.** (1990) From an animal's point of view: Motivation fitness and animal welfare. *Behavioral and Brain Sciences* 13: 1-61
- Department of Agriculture**, www.nda.agric.za, last visited August 19, 2008
- Department of Environmental Affairs and Tourism**, www.environment.gov.za, last visited August 19, 2008
- Dijkman A.** (2008) Dierenartsen: Ritueel slachten onaanvaardbaar www.elsevier.nl/web/10162136/Nieuws/Nederland/Dierenartsen-Ritueel-slachten-onaanvaardbaar.htm, March 15
- D'Silva, J.** (2003) The growth of factory farming in China. (Presentation paper)
- Duncan, I.J.H.** (1996) Animal welfare defined in terms of feelings. *Acta Agricultura Scandinavica Section A, Animal Science, Supplement 27*: 29-35
- Duncan, I.J.H. & J.C. Petherick** (1991) The implications of cognitive processes for animal welfare. *Journal of Animal Science* 69: 5017-5022
- Dutch Ministry of Agriculture, Nature and Food Quality**, Brazilië creëert functie van landbou wattaché op ambassades, http://www.minlnv.nl/portal/page?_pageid=116,1640321&_dad=portal&_schema=PORTAL&p_file_id=29244, last visited September 24, 2008
- Eaton, D., Bourgeois, J., Achterbosch, T.** (2006) Product differentiation under the WTO: an analysis of labelling and tariff or tax measures concerning farm animal welfare. The Hague, The Netherlands: Dutch Agricultural Economics Institute
- EC** (2002) Communication from the commission to the council and the European Parliament on animal welfare legislation on farmed animals in third countries and the implications for the EU. 626 final, Brussels: EC
- EC** (2006) Communication from the commission to the European parliament and the council on a community action plan to the protection and welfare of animals 2006-2010. 13 final, Brussels: EC
- Engebretson, M.** (2008) North America, in Appleby et al., Long distance transport and welfare of farm animals, 218-260
- Enting, J., Vermeij I., Bosma, A.J.J., Buiten, A. van** (2006) Level playing field in pig production. [Implementatie, interpretatie en controle op naleving van EU-richtlijnen voor de varkenshouderij] Wageningen, The Netherlands: Animal Sciences Group of Wageningen University
- Health and Senior Services**, www.state.nj.us/health/animalwelfare/links.shtml, last visited August 19, 2008
- Food Safety and Inspection Service**, www.fsis.usda.gov/OPPDE/rdad/FRPubs/04-013N.htm, last visited August 19, 2008
- Gallo, C.B., T.A. Tadich** (2008) South America, in Appleby et al., Long distance transport and welfare of farm animals, 261-287
- Geffen van J., C. de Pater, G. Hovens, L. Kersbergen, B. Loseman, G. van der Peet, T. Brandwijk** (2004) Dier en welzijn wereldwijd. Verkenning van beleid en denken over dierenwelzijn in internationaal perspectief. Ede, The Netherlands: Assessment center of the Dutch Ministry of Agriculture, Nature and Food Quality.
- Grethe, H.** (2007) High animal welfare standards in the EU and international trade – How to prevent potential 'low animal welfare havens'? *Food Policy* 32(3): 315-333
- Grigera Naón, J.J.** (2008). Farmer's Organisations Work in Support of the OIE Animal Welfare Standards. Proceedings of the 2nd Global Conference on Animal Welfare. Cairo, Egypt, 20-22 October 2008.
- Harris T.** (2005) Animal transport and welfare: a global challenge. *Rev. sci. tech. Off. int. Epiz.*, 24(2), 647-653
- Holwerda J.** Sector Vlees, www.minlnv.nl/portal/page?_pageid=116,1640321&_dad=portal&_schema=PORTAL&p_file_id=29244, Dutch Ministry of Agriculture, Nature and Food Quality, last visited September 24, 2008
- Horgan, R., Gavinelli, A.** (2006) The expanding role of animal welfare within EU legislation and beyond. *Livestock Science* 103(3), 303-307
- HSUS** (2006) An HSUS Report: The Welfare of Animals in the Meat, Egg, and Dairy Industries. http://www.hsus.org/web-files/PDF/farm/welfare_overview.pdf

- Hughes, B.O.** (1976) Behaviour as an index of welfare. In: Proceedings of the Fifth European Poultry Conference, Malta, pp. 1005-1081
- International Fund for Animal Welfare**, www.ifaw.org/ifaw/general/default.aspx?oid=17928, last visited August 19, 2008
- Israel Dairy Board**, 2009. <http://www.israeldairy.com/info/about/facts.htm>, last visited 3 February 2009.
- Jongeneel, R., F. Brouwer, M. Farmer, R. Müssner, K. de Roest, X. Poux, G. Fox, A. Meister, Z. Karaczun, J. Winsten and C. Ortéga** (2007) Compliance with mandatory standards in agriculture; A comparative approach of the EU vis-à-vis the United States, Canada and New Zealand. The Hague, LEI, Report 6.07.21
- Kagawaran ng Kapiligiran at Likas Yaman** (Department of Environment and National Resources), www.denr.gov.ph, last visited August 19, 2008
- Kahn, S.** (2008). Implementation of OIE animal welfare standards: preliminary analysis of Members' replies to OIE Questionnaire 2008. Proceedings of the 2nd Global Conference on Animal Welfare. Cairo, Egypt, 20-22 October 2008.
- Li B.** (2008) Presentation of Animal Farming in China and Research Focus in China Agricultural University (CAU), August 28, 2008
- Li, P.J., A. Rahman, P.D.B. Brooke, L.M. Collins** (2008) Asia, in Appleby et al., Long distance transport and welfare of farm animals, 288-323
- LNV** (Dutch Ministry of Agriculture, Nature and Food Quality) (2007) *Nota Dierenwelzijn*. The Hague, the Netherlands: LNV
- Lorz, A.** (1973) *Tierschutzgesetz*. C.H. Beck'sche Verlagsbuchhandlung, Munich, 272 pp
- Masiga W.N., S.J.M. Munyua** (2005) Global perspectives on animal welfare: Africa. *Rev. sci. tech. Off. int. Epiz.*, 24(2): 579-587
- Mason, G. & M. Mendl** (1993) Why is there no simple way of measuring animal welfare? *Animal Welfare* 2: 301-319
- Menczer, K.** (2008) Africa, in Appleby et al., Long distance transport and welfare of farm animals, 182-217
- Michie's Legal Resources**, www.michie.com/newjersey/lpext.dll?f=templates&fn=main-h.htm&cp=, last visited August 19, 2008
- Moberg, G.P.** (1985) Biological response to stress: Key to assessment of animal well-being? In: G.P. Moberg (Ed), *Animal Stress*. American Physiological Association, Bethesda, pp. 27-49.
- PEW Commission** (2008) Putting Meat on the Table: Industrial Farm Animal Production in America. A Report of the Pew Commission on Industrial Farm Animal Production. <http://www.ncifap.org/>.
- Pickett, H.** (2006) The way forward for Europe's egg industry: keeping the ban on battery cages in 2012. CIWF Trust, Petersfield, Hampshire, UK. 25 pp
- National Association for Biomedical Research**, <http://www.nabranimallaw.org>, last visited August 19, 2008
- Odendaal J.S.J.** (2005) Science-based assessment of animal welfare: companion animals. *Rev. sci. tech. Off. int. Epiz.* 24(2): 493-502
- Office of the Law Revision Counsel**, <http://uscode.house.gov/download/pls/07C48.txt> last visited August 19, 2008
- Punished Paws**, www.pawtal.za.net, last visited August 19, 2008
- Rahman, S.A.** (2008) Middle East, in Appleby et al., Long distance transport and welfare of farm animals, 387-411
- Rahman S.A., L. Walker, W. Ricketts** (2005) Global perspectives on animal welfare: Asia, the Far East, and Oceania. *Rev. sci. tech. Off. int. Epiz.*, 24(2), 597-612
- Rojas H., L. Stuardo, D. Benavides** (2005) Políticas y prácticas de bienestar animal en los países de América: estudio preliminar, *Rev. sci. tech. Off. int. Epiz.*, 24 (2): 563
- Rollin, B.E.** (2007) Cultural variation, animal welfare and telos. *Animal Welfare* 16(1), 129-133
- Sandøe, P.** (1996) Animal and human welfare: Are they the same kind of thing? *Acta Agriculturae Scandinavica Section A, Animal Science, Supplement* 27: 11-15
- SANParks (South African National Parks)**, www.sanparks.org, last visited August 19, 2008
- S.A.T.I.S. LTD**, www.satis.co.za/aac/animal_protection.htm, last visited August 19, 2008
- Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca Y Alimentación**, www.sagarpa.gob.mx, last visited August 19, 2008
- Secretaría de Medio Ambiente Y Recursos Naturales**, www.semarnat.gob.mx, last visited August 19, 2008
- Seng P.M., R. Laporte** (2005) Animal welfare: the role and perspectives of the meat and livestock sector. *Rev. sci. tech. Off. int. Epiz.*, 2005, 24(2): 613-623
- Smithfield**, 2007. Corporate social responsibility report. SMITHFIELD FOODS, INC. 200 Commerce Street, Smithfield, VA 23430

- Špinka M.** (2008) Promoting Applied Ethology Worldwide Summary of talks and discussion of the workshop held on August 6, 2008 during the ISAE congress in Dublin
- Stafleu, F.R., F.J. Grommers & J. Vorstenbosch** (1996) Animal welfare: Evolution and erosion of a moral concept. *Animal Welfare* 5: 77-84
- Sumernet**, www.sumernet.org/news/mekongnews_detail.asp?id=19, last visited August 19, 2008
- The Brooke**, <http://www.thebrooke.org>, last visited August 28, 2008
- The Cape of Good Hope SPCA** (Society for the Prevention of Cruelty to Animals), www.sPCA-ct.co.za, last visited August 19, 2008
- The Durban and Coast SPCA** (Society for the Prevention of Cruelty to Animals), www.sPCAdbn.org.za, last visited August 19, 2008
- The Humane Society of the United States**, http://www.hsus.org/farm/news/ournews/congress_downers_usda_070908.html, last visited August 19, 2008
- The National Farm Animal Care Council**, www.nfacc.ca/code.aspx and www.nfacc.ca/Projects/Default.aspx, last visited August 19, 2008
- The Wildlife Group**, www.wag.co.za, last visited August 19, 2008
- Thiermann A.B., S. Babcock** (2005) Animal welfare and international trade. *Rev. sci. tech. Off. int. Epiz.*, 24(2): 747-755
- Turner, J. Graces, L., Smith, W.** (2005) The welfare of broilers in the European Union. CIWF Trust, Petersfield, Hampshire, UK. 32 pp
- Van Geffen, J., de Pater, C., Hovern, G., Kersbergen, L., Loseman, B., Van der Peet, G., Brandwijk, T.** (2004) *Dier en welzijn wereldwijd. Verkenning van beleid en denken over dierenwelzijn in internationaal perspectief*, Ede, The Netherlands: Assessment center of the Dutch Ministry of Agriculture, Nature and Food Quality
- Van Horne, P.L.M., Bondt, N.** (2006) *Kostprijontwikkeling kuikenvlees 2004-2010: Basisjaar 2004*. Report, The Hague, the Netherlands: Dutch Agricultural Economics Institute
- Van Horne, P.L.M., Achterbosch, T.J.** (2008). Animal welfare in poultry production systems: impact of EU standards on world trade. *World's Poultry Science Journal*, Vol. 64, March 2008
- Veissier, I., Forkman, B. and Jones, B.** (2007) Assuring animal welfare: from societal concerns to implementation. Second Welfare Quality stakeholder Conference, May 3-4 in Berlin, Germany
- Vrolijk, B.** (2008) Dierenwelzijn: minister van landbouw stelt commissie in. The Dutch Embassy in Brasília, www.mfa.nl/bra/landbouw_natuur_en/actualiteiten#224631, last visited August 19, 2008
- Wiepkema, P.R.** (1982) On the identity and significance of disturbed behaviour in vertebrates. In: W. Bessei (Ed), *Disturbed Behaviour in Farm Animals*. Hohenheimer Arbeiten 121. Verlag Eugen Ulmer, Stuttgart, pp. 7-17
- Wildlife at Risk**, www.wildlifeatrisk.org/index.php?id=5&subid=22&lang=en, last visited August 19, 2008
- Wilkins D.B., C. Houseman, R. Allan, M.C. Appleby, D. Peeling, P. Stevenson** (2005) Animal welfare: the role of non-governmental organisations. *Rev. sci. tech. Off. int. Epiz.*, 24 (2), 625-638
- World Organisation for Animal Health (OIE)**, www.oie.int/eng/OIE/en_about.htm?e1d1, last visited September 1, 2008
- World Society for the Protection of Animals**, www.wspa-international.org, last visited August 19, 2008
- Zonderland, J.J., Enting, J.** (2006) Varkenshouderij in Brazilië, Sterke integraties en stevige merken. Practice report 48 (for a summary see: <http://www.pv.wageningen-ur.nl/index.asp?producten/boeken/praktijkrapport/var/48.asp>)

4 Animal welfare and ethics in population control of local overabundant wildlife

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4.1 Introduction

In this project on animal welfare in a global perspective, Dutch Foreign Agricultural Services were asked to fill out a questionnaire. Part of this questionnaire aimed at animal welfare aspects and ethics in wildlife management, in particular of locally overabundant species. Questionnaires filled out by the Agricultural Services of Argentina, China, India, Malaysia, Singapore, The Philippines, Ethiopia, Kenya, Uganda, Tanzania, Eritrea, Turkey, Israel and Palestinian territories, the United Arab Emirates, Saudi-Arabia, Iran, and Mexico revealed no relevant information on animal welfare issues in wildlife management. The Agricultural Service for Korea reported on overpopulation of wild boar in the Kyung-gi province (near Seoul). Local densities reach 7/100 ha (with a country mean of about 4/100 ha). Wildlife welfare is, however, not an issue in management. The Agricultural Service for Malaysia reported on the Malaysian Wildlife Dept, which was considering allowing the export of nuisance monkeys which had been rounded up near residential estates (this idea was abandoned after lobbying by animal welfare groups).

Local overabundance of a given species can be deemed to exist when the conservation, management objectives or desired state of an area are not being met due to the species' activity (Balfour et al. 2007). Since these qualifications are subjective, local overabundance is in itself a subjective qualification, even more so where personal (financial and emotional) interests are at stake. Structural overabundance is also unnatural. The more natural the ecosystem, the lower the chance that structural overabundance will appear, since natural density dependent or density independent mechanisms will reduce numbers in accordance with food supply, social interactions, shelter, weather or climate. Structural overabundance of wildlife is in many cases the result of the deterioration of ecosystems as a result of human influence. This is illustrated by ungulates, rodents, rabbits, geese and pigeons that are considered 'pest' species in western world agricultural practice or motorised traffic. Management options to counteract 'peak numbers' include non-intervention, translocation, culling, fertility control, repelling (including fencing) or habitat manipulation or a possible combination of these. Whatever option is used, it will always spark protests from people against it. In particular birds and large mammals (furbearers) appeal to the feelings of people, who refuse to tolerate that these animals are being chased away, let alone killed. Species may even turn into flagships of economic, ecological, cultural and aesthetic value. They provide a focus for raising awareness and stimulating action and funding for broader conservation efforts (e.g., whales, seals, giant panda, elephant, rhino and tiger). In the following paragraphs we will show examples of this.

In the following we will look into the case of 'overabundant' elephant in South Africa. In addition we will devote some paragraphs to the management of overabundant Australian kangaroo, Canadian elk and bison and Canadian and Namibian seals, and look at the western world's attitude towards large mammals in general and large predators in particular. We cover South African elephant management in detail, because it illustrates many aspects of wildlife management, including animal welfare. In fact problems with African elephants in South Africa illustrate dilemmas that may accompany successful management of a (still) threatened species, using large, fenced-off areas. This is more or less also the case in the management of elk and bison in Canadian parks. Australian kangaroo illustrate how a species may react to increasingly important resources, in this case the cultivated grasslands offered by man (agriculture). Hunting 'overabundant' seals clearly bears the aspect of (indigenous) people that depend for a living on natural resources in a rapidly changing world.

All examples given have a relation with aspects of wildlife management in the Netherlands, a small, highly industrialised West European country, with nature under pressure from infrastructure and lack of space. Nobody hunts for a living in the Netherlands, except for fishermen. Large mammal predators have been extirpated and remaining larger mammal species like red deer (*Cervus elaphus*) and wild boar (*Sus scrofa*) are living almost exclusively in fenced natural parks. Management of these species in their fenced areas, in particular culling for number control, each year generates much public debate in which animal welfare and ethics play a role. The Netherlands also has problems with a number of species that prefer cultivated, agricultural areas as a (seasonal) habitat, like some goose species. Number control of these species is under debate since many NGOs do not accept their culling. Dutch tourists visit nature parks all over the world, including South Africa, the USA and Canada, to experience the wilderness. Here they find inspiration and actively mingle in nature conservation all over the world. We present these cases to facilitate the multilateral dialogue between the Netherlands and third countries on the management of natural resources and threatened species.