Handling and Welfare of Bovine Livestock at Local Abattoirs in Bangladesh

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The World Organization for Animal Health (OIE) allows rope casting and the tying of legs for nonhuman animal slaughter without stunning. The handling and welfare of bovine livestock (Bos indicus and Bubalus bubalis) were studied in 8 local abattoirs in 5 districts of Bangladesh. A total of 302 animals were evaluated. At the local abattoirs, approximately 1/3 of the cattle and water buffalo were either emaciated or injured/sick. The size and vigor of the animals determined the casting method. Small and weak animals were cast on concrete floors by lifting a foreleg followed by pushing, or simply by twisting the head of the animal and then binding the legs with rope. Vigorous animals such as buffalo were cast using ropes and human force. Bleeding was slow and flaying was sometimes initiated before the animals were unconscious. Pulling and tearing of the trachea and pouring of water into the exposed trachea shortly after cutting were also observed in some cases. The overall animal handling was unnecessarily rough and the OIE standards were not implemented. Animals are subjected to considerable mistreatment, and there is an urgent need for the training and education of the staff in abattoirs concerning humane slaughtering practices as well as a need to build modern slaughtering plants in Bangladesh.

Keywords: slaughter, animal welfare, casting, transportation, cattle, water buffalo, halal

In 2012, the human population of Bangladesh was estimated at 152 million people (Bangladesh Bureau of Statistics, 2012), of whom more than 75% reportedly rely on livestock to some degree for their livelihoods, as livestock provides a source of food, nutrition, income, savings, draft power, manure, transportation, and a host of other social and cultural functions (Hague, 2009).
In 2005, the number of livestock in Bangladesh was estimated at 22.6 million cattle (Bos indicus) and 1.06 million buffalo (Bubalus bubalis; Department of Livestock Services, 2005). The density of large ruminants in Bangladesh is much higher than in many other countries in Southeast Asia; however, with limited resources and a growing human population, the supply of milk, meat, and eggs is outstripped by demand, leading to increased demand for imported nonhuman animals and animal products (Li, Rahman, Brooke, & Collins, 2008). The problems with food safety are significant in Bangladesh, as Rahman and Kabir (2012) reported that 10s of millions of people suffer from food poisoning or foodborne diseases yearly.

Although there is an extensive cross-border cattle movement from India and Nepal to Bangladesh, there is no border control and no effective quarantine of animals moving between these three countries (Loth et al., 2011). According to Rahman (2007), approximately 1.7 million cattle cross the border from India into Bangladesh yearly; a minor portion of these cattle are used as draft animals for cultivation, whereas the rest, around 1.5 million, are slaughtered for meat production. Across Asia, in addition to long journeys, animals are often subjected to poor transportation systems, long periods without food or water, rough handling, overcrowding, and extreme weather (Appleby, Cussen, Garcés, Lambert, & Turner, 2008).

However, Bangladesh is a member of World Organization for Animal Health (OIE), and since 2005, the World Assembly of OIE Delegates, representing the 178 member countries and territories, adopted seven animal welfare standards as part of its Terrestrial Code (OIE, 2012). Two of these standards concern animal transport by land and the slaughter of animals for human consumption. For example, Chapter 7.3 (“Transport of Animals by Land”) states that animal welfare during transport is a paramount consideration and the joint responsibility of all persons involved. The recommendations in Chapter 7.5 (“Slaughter of Animals”) address the need to ensure the welfare of food animals during the pre-slaughter and slaughter processes.

As in other developing countries, modern restraint devices are not available in local slaughterhouses. Additionally, according to Hasan, Hossain, Akhtar, & Rahman (2004), there is no application of humane slaughtering methods in Bangladesh, and animals who are transported to slaughterhouses are not subject to any legal restrictions, so slaughter depends on the expectations of the local slaughtermen and slaughterhouse owners/managers. There is only one modern meat-processing plant serving Bangladesh, and an additional three will be in service very soon (Sarder, 2011). Bengal Meat Processing Industries (www.bengalmeat.com) is situated in Santhia (Pabna District, Bangladesh); its workers restrain cattle before slaughter using a casting pen (upside-down pen).

Animal welfare is becoming a growing concern worldwide (Seng & Laporte, 2005). The specific procedure of rope casting during slaughter without stunning creates welfare concerns/implications due to the stress of restraint resistance, prolonged restraint, and bruising of the animal; therefore, the duration of restraint should be kept to a minimum (OIE, 2012). According to Ewbank and Parker (2007), ropes are used worldwide to restrain and handle cattle; however, there are a multitude of regional and local variations, with few of them having been formally documented or researched.

Suitable methods for placing large cattle in lateral or dorsal recumbency include various techniques to apply pressure to the thorax and abdomen, which induces weakness and paresis in the animals (Fowler, 2008). The half-hitch method (Reuff’s method) and the crisscross method are suitable for casting large animals, whereas the Lark’s head hitch is used to cast calves (Fowler, 2008). However, animal welfare research has shown that upright restraint,
rather than casting, should be used during slaughter (Berg & Jakobsson, 2007; Grandin, 2007). Additionally, there is equipment available for upright cattle restraint for nonstunned animals (http://www.grandin.com/restrain/intro.schematic.html).

The aim of the present study is to describe livestock handling and welfare at local abattoirs in Bangladesh. Of specific interest in this investigation was the type of casting methods applied in the slaughter of cattle and buffalo.

MATERIALS AND METHODS

Study Areas and Time Period

This study was conducted during August 2011 and involved visits to eight local abattoirs located in five districts in Bangladesh: Kwatkhali in Mymensingh (three abattoirs), Jautala and Firingi-bazar in Chittagong, Laxmipur in Faridpur, Belalta in Jessore, and Khalishpur in Khulna (Figure 1). These abattoirs are referred to as Mymensingh, Jautala, Firingi, Faridpur, Jessore, and Khulna, respectively, in the text. The districts were chosen on the basis of livestock availability.

Data Collection

The abattoirs were visited on 3 consecutive days each, except in Mymensingh, where one abattoir per day was visited. Data were collected (302 bovines in total) through visual inspections, photographs, and videos showing the casting and slaughter of 26 animals: 6 were in Jautala, 5 in each Faridpur, Firingi, and Jessore, 3 in Khulna, and 2 in Mymensingh. The animal welfare measurement parameters were feeding, housing, and health, which were chosen from the Welfare Quality® Assessment Protocol for Cattle (Welfare Quality®, 2009) established by the European Union (Table 1).

The only item recorded regarding feeding and watering was whether the animals were fed and watered while they were kept in a lairage. The rectal temperatures of all inspected animals were measured using an OMRON digital thermometer (Model MC-246, 2010; OMRON Health Care Co., Kyoto, Japan), and signs of disease were based on observing diarrhea or nasal, ocular, and vulvar discharges. Injuries and body conditions were evaluated using a visual inspection.

<table>
<thead>
<tr>
<th>Welfare Principles</th>
<th>Welfare Criteria</th>
<th>Measure</th>
</tr>
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<tbody>
<tr>
<td>Good Feeding</td>
<td>Absence of prolonged hunger</td>
<td>Feed supply</td>
</tr>
<tr>
<td></td>
<td>Absence of prolonged thirst</td>
<td>Water supply</td>
</tr>
<tr>
<td>Good Housing</td>
<td>Comfort in housing</td>
<td>Flooring, bedding, slipping, falling, moving/turning around or backwards</td>
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<td></td>
<td>Ease of movement</td>
<td></td>
</tr>
<tr>
<td>Good Health</td>
<td>Absence of injuries, disease, and induced pain using management procedures</td>
<td>Lameness, bruises, absence of chronic or infectious diseases, faulty management</td>
</tr>
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</table>
The duration of the casting procedure was measured from the time of first restraining the animal’s head until the animal was placed in lateral recumbency and all four legs were tied together. The time of death was measured by visual inspection and palpation from the time when the throat was cut to the time when eye movements and the heart beat ceased. Signs of insensibility (from Grandin, 2012b) were a hanging tongue, no righting reflex, attempts to lift the head, natural blinking of the eyes, rhythmic breathing or vocalization, and a relaxed tail.
RESULTS

Arrival at Abattoirs and Health of the Animals

The cattle and buffalo were walked in groups of approximately five animals to the local abattoirs or transported in different-sized vehicles. The animals were fitted with rope halters, some of which passed through the nasal septum, or a simple rope around the neck. Animals were kept in a lairage for 1 to 2 days or were slaughtered upon arrival (numbers not quantified). Both imported cattle/buffalo (e.g., Haryana, Kankrej, and Murrah breeds) and local breeds of cattle and/or buffalo were slaughtered in Firingi and Jautala, but only local breeds (e.g., Red Chittagong Cattle, Pabna White Cattle, and Munshiganj White Cattle) were slaughtered in the other abattoirs.

There was a veterinary inspection prior to slaughtering in two abattoirs—Firingi and Khulna. The animals were fed and watered in all abattoirs except Firingi, and the feeding generally ceased 12 hr before slaughter. According to the personnel at Firingi, 1 to 2 animals per month died upon arrival due to exhaustion or hyperthermia caused by long-distance transportation, mainly from India. Only healthy animals (24 in total were observed) without visible injuries were slaughtered in the smaller abattoirs (Mymensingh and Jessore), but at Khulna, 36% (40/110) of the observed animals were in very poor condition and most were emaciated (Figure 2, Table 2).

In Firingi, 38% (45/120) of the animals were injured. The most frequent injuries were bruises, wounds (some with pus formation), and chafing in the posterior caused by rope burn that had occurred in the vehicles. In Khulna, two injuries were observed, in addition to other clinical signs of poor welfare. Clinical signs other than injuries were diarrhea (26 animals; 10 were in Khulna), elevated temperature (11 animals), and subnormal temperature (2 animals).

Lairages and Abattoirs

Simple, covered housing (roofs constructed of tin sheets with concrete flooring) was used both as a lairage and the slaughter area in Mymensingh, Jautala, Faridpur, Khulna, and Laxmipur.

<p>| TABLE 2 |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th></th>
<th>Mymensingh</th>
<th>Firingi</th>
<th>Jautala</th>
<th>Faridpur</th>
<th>Jessore</th>
<th>Khulna</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total observed</td>
<td>7</td>
<td>120</td>
<td>25</td>
<td>23</td>
<td>17</td>
<td>110</td>
<td>302</td>
</tr>
<tr>
<td>Injured&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0</td>
<td>45</td>
<td>14</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>64</td>
</tr>
<tr>
<td>Emaciated</td>
<td>0</td>
<td>20</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>40</td>
<td>65</td>
</tr>
<tr>
<td>Subnormal temperature</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Elevated temperature</td>
<td>0</td>
<td>8</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>0</td>
<td>12</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>26</td>
</tr>
<tr>
<td>Nasal discharge</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
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<tr>
<td>Ocular discharge</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Vulvar discharge</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

<sup>a</sup>Wounds, bruises, lesions, and hairless patches.
Jessore had covered housing (a roof constructed of tin sheets with bamboo walls and dirt flooring), which was used as a lairage separate from the slaughtering area. Slaughtering was performed on an open concrete platform about 30 m from the lairage. The abattoir at Firingi (the main slaughter house of the Chittagong City Corporation) was a two-story building, and the abattoir at Khulna (the larger slaughter house of the Khulna City Corporation) was a one-story building. Animals standing outside the lairage at Khulna were uncomfortably tied, preventing them from lying down, and two bulls showed aggressive behavior. In Firingi, slaughtering was performed both inside and outside the abattoir, and the indoor slaughtering area had a dirty concrete floor.

Free-roaming dogs were present in all eight abattoirs, crows were present in five abattoirs during slaughtering, and free-range chickens were present in one. In Mymensingh, the abattoirs were located next to several houses used by employees, two of which were located near a human toilet facility. The Jautala abattoir was located in a market adjacent to a drain connected to the sewage system in the vicinity of a railway and had an open concrete floor. The cattle kept inside the lairage had no bedding at all, and as a consequence, they were dirty and covered.
with manure. The outdoor slaughter area had a very filthy and unhygienic surface and was situated next to a city dump and a human toilet (Figure 3).

The concrete platform where the cattle were tied to the ground (Figure 3) was broken with openings and sharp, fractured edges and did not have a sufficient area for the animals to rest. During 1 of the 3 inspection days, it was raining and the cattle who were outdoors waiting to be slaughtered showed signs of mild hypothermia, as they were shivering and had subnormal body temperatures.

Casting and Restraint

Jute ropes were used for casting animals in Jessore and Khulna, and both jute and nylon ropes were used in the other abattoirs. The total casting process generally requires 3 min to 4 min. However, we observed animals who required several casting attempts in all abattoirs.

Generally, two men were sufficient to restrain an animal. The animals were outfitted with simple rope halters, and before binding the forelegs, a rope from the halter was tied around a pillar to prevent the animals from turning around. One person roped all four of the animal’s legs while the second held her head down. Initially, the forelegs were roped together below the metacarpi, then the hind legs were bound together below the hock joints. Next, the rope around the hind legs was pulled suddenly, and the animal fell down onto the concrete floor. The rope from the hind legs was pulled between the forelegs around the rope tying the forelegs together, until all four legs were bound together to gain full control over the animal for slaughter.
In one small animal (the size was not measured), only one hind leg was forced between the tied forelegs, thus only three legs were bound together with the rope. The cattle were turned laterally by pulling their tails, then they were turned from right to left by bending the animals’ necks and pulling the rope around their legs. This is done because when an animal is slaughtered, he or she should be facing Mecca, and if the animal is lying on his or her left or right side, then his or her neck and stomach should be facing Mecca (Al-Islam.org, n.d.).

The casting of cattle was also performed by fastening a rope around the animal’s neck as close as possible to the ground and tying it to a ring on the concrete floor. Similar to the procedure outlined earlier, the forelegs were roped together followed by binding of the hind legs. Then, the rope around the hind legs was pulled in one direction and the tail in the opposite direction causing the animal to fall onto the floor. Finally, all four legs were tied together.

Inside of the Jautala abattoir, the animals waiting for slaughter were tied very close to the wall and stood in the body fluids from animals slaughtered in the same room. Two cattle were observed being successively cast indoors using the same method described earlier near the animals already tied. When binding the forelegs, the cattle tied to the wall became stressed and made several attempts to escape. The first animal, of a smaller size, was bound by all four legs and was left in this position for 5 min before slaughter, thereby increasing the total time of the slaughtering process. In addition, the larger animal was cast close to the smaller one, who was hit with the hooves of the larger animal when he or she turned around. The animals were then violently pulled by their tails and turned around from the right to left side, to get them beside each other in a similar position before cutting.

Also, in the Firingi abattoir, two people (occasionally only one) were used to cast the animals. This abattoir was extremely crowded and all procedures were performed by the personnel working side by side simultaneously. Living animals were placed beside cast and bound animals, as well as those already slaughtered, and among slaughter waste. The personnel seemed stressed and they were working under time constraints; thus, they handled the animals very roughly. For example, when they pulled the ropes tied around the hind legs, they used a lot of force and applied it so suddenly that the animal hit the concrete floor hard with all of his or her weight. The animals’ tails were bent over their backs to force them to stay in place. Some animals had their hind legs bound together and then were cast by pulling and bending the tail suddenly with great force. Any attempts to stand were thwarted by bending the tail backwards above the back of the animal.

Several animals were injured by the rough handling during casting. Also, the cast animals were dragged by their halters in addition to their tails. At the Faridpur abattoir, two casting methods were used: The head of the cattle was twisted and one of the forelegs was lifted up, followed by pushing. After falling down, the animal’s four legs were tied together. However, several cases were observed in which the first attempt at casting failed and the animals had to be cast again. Aggressive cattle and buffalo required two to three workers to restrain them. In cases of rope casting, some animals struggled and freed themselves from the ropes. With regards to the weakest animals, it was possible to cast an emaciated cow by simply twisting her head. Also, at the Jessore abattoir, the weaker animals were cast by twisting the head and pulling/lifting one of the forelegs. Several animals stood after the first casting and had to be cast again, and one made attempts to escape on the slippery floor.

Buffalo or larger animals were cast by one worker controlling the animals with a rope around their necks, while a second worker bound the forelegs below the elbow joint using a.
long rope, which was crossed over the animal’s back, and then the end of the rope was pulled between the hind legs. One person pulled the end of the rope from the posterior side of the animal, and when the animal was lying on the floor, the head was twisted and then all four legs were bound together. Occasionally, a third worker had to hold the animal’s tail by making a loop of the tail around the upper hind leg. Several casting attempts were also required for some animals at this abattoir, because the weakly tied ropes came off when the animals resisted restraint and stood again.

In the Khulna abattoir, the thin and weak animals were cast by pulling one of the forelegs up and pushing the animal down while one person twisted the animal’s head. Here, up to four workers were involved in restraining and casting buffalo. Two ropes were placed around the buffalo’s head/neck and were tied closely to a thick concrete pillar, so that the animal’s forehead and horns were against the pillar surface. At first, the forelegs were bound with a rope under the elbow joint and then the hind legs under the hock joint. Again, several attempts were often required because of resistance from the buffalo. Next, the rope around the hind legs was pulled from one side, and from the opposite side, another person pulled the tail causing the animal to fall onto the floor. Three workers were standing (really standing, not just using a foot to hold the animal down) on the buffalo to keep him or her in place: one on the animal’s head and two on his or her abdomen. Lastly, all four legs were bound together to gain full control of the animal.

**Sticking and Bleeding**

No stunning was done, and the slaughter was done by severing blood vessels in the neck, close to the jawbone, using different types of knives (Figure 4), followed by one to two stabs (hand movements in the forward direction) in the tracheal area with the point of the knife. In the Firingi abattoir only, a long knife (sword) was used, and no stabbing with the point of the knife occurred. In all of the abattoirs, the butchers sharpened the knives before each slaughter.

Cutting required several hand movements in a sawing motion along the throat of the animal. The average time of death, from cutting to cardiac arrest, was 7 min to 8 min. Cardiac arrest was determined by visual inspection and palpation—that is, absence of detectable pumping action of the heart. Bleeding was occasionally very slow, as one animal at the Khulna abattoir was observed to have cyclical spasms for 7.5 min after cutting.

At the Firingi abattoir, workers from the City Corporation slaughtered each animal. One cow was observed being dragged by her head immediately after cutting, and a bull was dragged by his tail immediately after cutting at the Khulna abattoir. The mean time of death at the Jessore abattoir was somewhat shorter, at 5 min to 6 min. Some butchers poured water into the trachea or rubbed the exposed tissue with a wet cloth after cutting the throat. The flaying of two buffalo was also observed, and this was initiated less than 30 s after cutting, after their tracheas were exposed and pulled upward from the neck, and then water was poured into the tracheal opening. The butchers believe that the animals die sooner. Additionally, the butchers at the Jessore abattoir did not let the animals (four observations in total) lie undisturbed and bleed after the cutting, but they were observed hitting them to put pressure on the abdominal and thoracic regions of the four animals. At the Mymensingh abattoir, the flaying of two animals before confirming death was also observed.
FIGURE 4  Knives used in Jautala, Jessore, and Mymensingh (sizes were not recorded; color figure available online).
As stated by Li et al. (2008), the passing of the OIE guidelines signaled that animal welfare is no longer a concern of only certain nations, but it has become an issue for official attention on a global level. To our knowledge, there are not yet any animal welfare organizations concerned with cattle/buffalo slaughtering issues in Bangladesh. However, other than the OIE standards, the Animal Cruelty Act in Bangladesh was enacted in 1920. This study did not address all animal welfare issues at local slaughter houses in Bangladesh, but rather it documented methods at several representative urban abattoirs and highlighted critical points showing the breakdown of animal welfare. In addition, the observations concerning the substandard hygienic conditions at the abattoirs present evidence of hazards to public health. Children were observed working in the abattoirs, and the discharge of slaughter waste directly to the surrounding environments was another unacceptable practice observed.

Transport and Arrival at Local Abattoirs

A total of 64 injured animals were observed in the local abattoirs, of whom 57 had injuries mainly located on the upper parts of their bodies, including the point of the pin bone, ventral tail, tail head, point of the lumbar vertebrae, buttocks, and points on the shoulder and thorax. In 7 animals, injuries were located on the lower part of the body, including the distal legs and around the hooves. Injuries at the sacral, thoracic, and shoulder areas most likely occurred during transportation in densely populated vehicles. Injuries from long distance transports have been reported by others as well (Alam, Gregory, Jabbar, et al., 2010; Alam, Gregory, Uddin, et al., 2010). Additionally, several animals received injuries to the lower part of their bodies during the casting procedure. The emaciated cattle observed at the Khulna abattoir, where one third of the cattle were emaciated, were a product of poor animal husbandry practices by caregivers from the surrounding districts, as they were poor and apparently could not provide sufficient nutrition, regular deworming, or veterinary care to their animals.

Lairages

The use of a lairage prior to slaughtering creates concerns regarding hygiene, because bedding and site cleaning are not provided. A recent report by Salmi et al. (2012) questions the positive effect of lairage times on meat quality, and according to recent research, there is also a risk for adverse foodborne microbial growth if food is withheld for 48 hr or longer (Pointon, Kiermeier, & Fegan, 2012). Unnecessary and long resting periods in a lairage without feeding and watering, as in the case of the Firingi abattoir, raises concerns regarding animal welfare because the cattle experience thirst and hunger. According to the 2012 OIE guidelines, the time at a slaughter house should not exceed 12 hr, and if it does exceed 12 hr, then the animals should be provided with sufficient feed and water. Only the lairage used in Jessore was able to provide some comfort to the cattle because of its soft dirt flooring.

Handling Bovines in Abattoirs Before Slaughter

The casting of 302 cattle and buffalo was observed, but none were cast using the methods described in the literature, the Reuff’s method, or the crisscross method. Hence, the current
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results imply that the size and vigor of the animal and the skills and the number of personnel determine which method is applied. Small and weak animals were cast by bending/twisting the neck or tail only or by lifting one of the forelegs followed by pushing, whereas large and vigorous animals were cast using ropes. However, with regard to rope casting, several attempts were required before the animals were bound and immobilized. Due to the use of concrete floors without bedding, the casting was stressful and painful, especially when more than one attempt was required due to unskilled handlers. In several abattoirs, the entire slaughtering process was unnecessarily long because the first animals who were cast had to wait several minutes before the next step of the slaughtering procedure.

Slaughtering knives were sharp and of different sizes (not measured) and shapes (Figure 4). According to the OIE guidelines, one key requirement for full frontal cutting across the throat is that the blade or knife be of sufficient length so that the point of the knife remains outside the incision during the cut. Instead, the point of the knife was used for stabbing the throat region while cutting. In addition, it was found that short knives required more time than long knives to perform the slaughter, and a sawing motion was applied during the cutting procedure. Applying a larger number of cuts to the neck increases the risk for stimulating free nerve endings in the skin and at the cut edge of the skin, which can induce pain (Gregory et al., 2012). According to the OIE regulations, after incision of the blood vessels, no carcass-scalding treatment or dressing procedures should be done on the animals for at least 30 s, or in any case, until all brainstem reflexes have ceased. This is based on correctly severing both arteries and veins and the absence of reflexes as a criterion of brain death.

In Jessore, some butchers poured water into the trachea after cutting the throat. Such operations are useless (the animal does not die sooner) and increases animal suffering. Blood entering the respiratory tract is a welfare concern because the sensation caused by blood entering the respiratory system is likely to be very stressful (Grandin, 2012a), and the same is presumably valid regarding other fluids, such as water. A lack of oxygen to the brain, as a result of rapid bleeding, causes death. Water in the airways is highly stressful and painful, and there is no scientific evidence to support that it leads to more rapid death. Occasionally, the animals were also capable of vocalizing for several minutes after cutting, indicating that the animals could still feel pain (Heinz & Srisuvan, 2001).

The results confirm that the OIE standards have not yet been implemented in Bangladesh. The OIE allows rope casting and the tying of legs for slaughter without stunning, but it is assumed that animals would be cast on a soft floor or on some kind of mattress to avoid injury. According to Bangladesh’s 2005 Livestock Policy and Action Plan, animals can be slaughtered in open places using traditional methods, but this does not allow adequate drainage of blood from slaughtered animals, proper flaying, and hygienic meat processing. These results suggest that the conditions remain the same today. In addition to the poor sanitary conditions, the animals are subjected to considerable mistreatment and none of the three welfare principles (sufficient feeding, adequate housing, or maintaining health) are fulfilled.

Additionally, the halal guidelines were not followed, except for voicing the name of God while cutting the throat (Al-Islam.org, n.d.). According to the halal requirements and scientific guidelines, animals should be treated in such a way that they are not stressed or excited prior to slaughter, and sufficient food and water must be provided. Animals should also be handled gently, and the slaughtering process should be as painless as possible, which involves using sharp knives of high quality.
There are emergent needs to establish a sufficient number of modern slaughterhouses in Bangladesh and to train the staff involved in slaughtering. The animals observed in this study were subjected to considerable mistreatment during every step of the handling process, including long-distance transportation, lairage, casting, and slaughter. Additionally, the workers’ safety is extremely questionable.

CONCLUSION

The handling and welfare of cattle and buffalo at eight local abattoirs in five districts of Bangladesh were evaluated. A high incidence of injuries among the imported/transported animals and a high prevalence of local animals who were sick and/or emaciated were found. In the smallest abattoirs, only a few animals were slaughtered each day. At the larger abattoirs, the workers were under time constraints and had insufficient lighting in overcrowded locations. Rough casting procedures caused stress, pain, and the mistreatment of animals.

Additionally, bleeding of the animals was slow and there was a reason to believe that flaying occasionally begun before the animals lost consciousness. Increased production through humane treatment of slaughter animals can be achieved with reduced carcass damage and waste, and the meat can be sold for higher amounts due to less bruising and injury and decreased mortality. Also, meat quality can be improved by reducing animal stress, and the quality and value of hides and skins can be increased (Heinz & Srisuvan, 2001). Establishing modern slaughterhouses and educating and training the abattoir personnel in the humane handling of animals are important issues. The use of an upright restraint instead of casting is highly recommended.

ACKNOWLEDGMENTS

We wish to thank Associate Professor Lotta Berg for valuable comments on the manuscript, and we also owe Dr. Manobandro Majumder a debt of gratitude for help in planning the study visits.

REFERENCES


