Portable squeeze for cattle and yak.

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Exporting Cattle squeezes to Nepal

Part 1

Product description

Cattle squeezes are a pinnacle and useful resource for safe and humane handling of large bovine. The Squeeze is a sturdily built metal enclosure with multiple mobile pieces that allow for safe access to the animal. Since it is manually operated with levers this squeeze design can be operated efficiently under one mans power. Then along with the optional trailer, for the sake of maneuverability, a community of farmers in the hill or mountainous region can move this squeeze to a desired location. The squeeze itself has an automatic head gate that springs with the momentum supplied by the animal. As the stock moves into the squeeze a neck yoke is triggered when the animal reaches the end. The yoke captures the animal and stops its forward movement, a gate behind the animal is then closed manually by the handler. This head gate then secures the animals head and catches the sides of the animal. Bars are then, if needed, positioned in behind smaller animals to eliminate back and forth movement. Sides of the Squeeze then can be swung on pivots to 'squeeze' the animal to eliminate any side to side movement of the animal (HI-Hog 2016). Ultimately, the squeeze has now safely and humanely immobilized the animal. "Well-designed facilities for veterinary work, loading trucks, sorting and other procedures will make handling more efficient and help reduce stress and injuries. Reducing stress during handling is important because handling stresses can

Fig 1 image from http://www.hi-hog.com/parallel-axis-squeeze-chute/

lower conception rates (Hixon 1981), suppress immune function (Kelley 1981), and raise cortisol levels (Zavy, 1992). Rough handling will reduce weight gains. Cattle handled quietly in well designed facilities had much lower heart rates compared to cattle handled roughly in poor facilities (Stermer, 1981)" (Grandin, Hixon, Kelley, Zavy, & Stermer, 1997). This squeeze now gives the farmer safe access to the animal as they are examined, tagged, marked, or treated. The squeeze comes with vet doors along the neck, bottom and the rear of the squeeze to allow access to injection sites, and for a calf to nurse. Once the farmer is finished with that animal, they would simply pull a lever to realise the sprung head gate, it then opens and the animal walks out, and the squeeze is now ready for another cycle. Cattles squeezes are an efficient and practical way to safely handle bovine, there design is modest yet effective.

Precautions

Cattle Squeezes handled improperly can lead to hazardous situations for both handler and bovine stock. If the handler follows safe operations while using a squeeze it can prevent serious situations such as death to both parties involved. (IACUC, 2013)

Typical injuries: handling the chute recklessly and unalertly can lead to contusions, cuts, abrasions, and broken bones to handlers and livestock. (IACUC, 2013)

Recommended Safe Practises: Prior to use;

- Communication with all persons involved is essential while moving cattle through the chute
- Test and inspect all levers, gates, latches and all moveable parts for damages, ceases, or loose parts
- Do not wear loose clothing that can be snagged on squeeze

- Keep the area around the Squeeze clear of tripping hazards (this will also keep the bovine from startling)
- Side access panels should be secured and locked
- Keep appendages (fingers, arms, legs, hands) away from pinching zones around the squeeze (head gate, side squeeze, side exit, rear gate)

Livestock in Nepal

The abundance of large livestock in Nepal makes this product a reasonable export from Canada. Through out Nepal, there are roughly 7million Cattle, and 5 million Buffalo (Joshi, 2016). Livestock plays a vital role in Nepal's agriculture system and has a large influence on the rural economy. Since as much as "70 percent of households in Nepal keep some type of livestock, including cattle and buffalo" (Food and Agriculture Organization of the United Nations, 2005). The squeezes would be bought by a community, shared and used to better the livestock sector in Nepal. The trailer, that could be bought separately, would allow for the poorer parts of Nepal to share amongst a large area and through multiple communities. Moreover, "a pro-poor progress of the livestock sector could be a way to reduce poverty for a considerable number of poor and marginalized rural farmers" (Food and Agriculture Organization of the United Nations, 2005). The livestock sector in Nepalese agriculture is known to be the backbone and driving force, because up to 93% of the population depends on it (Joshi 2016). The livestock products such as milk, meats and hides are a large outcome of the sector, however the farmers rely on the same species such as cattle and buffalo to produce all of their fertilizers, and in the mountainous regions to haul equipment and transport goods.

Canadian Company

There is a Canadian company in Calgary, Alberta called Hi-Hog that produces and manufactures a wide variety of large bovine handling equipment and suited trailers for a portable option. The squeeze that would be best suited for all Agroecological regions of Nepal would be their Parallel Axis Cattle Squeeze. This system can be operated by one person, and adjusted with ease to fit any large bovine from cattle, to yak. They create a squeeze out from a tough durable design, building it out of 100% extra heavy duty steel (Hi-Hog, 2016). The Parallel axis cattle squeeze retails roughly around ~*$4000* Cdn, and the corresponding trailer for approximately ~*$1000* Cdn. This is a large price tag for an individual Nepalese farmer, therefore this product would suit a group or community to buy and share as needed

Fig 2 image from http://www.hi-hog.com/parallel-axis-squeeze-chute

Moving the Product from Canada to Nepal

As Hi-Hog does not ship directly to Nepal, this would allow for a third party to work as a link between Canada and Nepal. Nepal's Government website does not show any restriction set in place to refuse Cattle squeezes into the country. However back in Canada, Hi-Hog does not have an international trade or shipping sector integrated into their business. Although Hi-Hog does have suppliers in British Columbia. From the Hi-Hog distributors in British Columbia, these squeezes can be taken from that point to the Mediterranean Shipping Company (M.S.C). The M.S.C is leader in the world of global container shipping, they also provide road, rail and sea transport integrated together (M.S.C 2016). Once at the M.S.C shipping yards in either Prince Rupert or Vancouver (B.C) the squeezes can be loaded into shipping containers. Since each squeeze is rectangular in shape, they can be shipped in bulk, as dry cargo on freighters over

the Pacific Ocean, to the shipping destinations in India such as: Kolkata, and Haldia. From these shipping yards the Mediterranean Shipping company does Intermodal shipping, where they pick up the freight at its destination port and truck it to its final destination, in this case Nepal, where the Squeezes will be dispersed as needed.

Critical Analysis

The analysis of cattle squeezes being exported from Canada into Nepal can be examined in 4 areas:

Strengths: Exporting Canadian cattle squeezes would set a worldwide presence for Canada in the cattle and protein industry. Within Canada jobs will be created in welding and metal fabrication, as well as shipping jobs related to the Mediterranean shipping company and Purolator. Along with Canada creating and developing more of a presence internationally as a leader in cattle related exports, the chances to export more Canadian cattle exports such as beef are readily available. To illustrate, the Canadian beef industry already ships to 58 countries with the United States taking up 71% of all exports followed by China at 10% (C.C.A, 2016), creating a more international market of cattle exports could increase beef and other related commodities.

Weakness: In Nepal, the current way of containing and handling large bovine is done in a cheap, inexpensive, and easy to understand way. Nepalese farmers use halters and a secured tying off point (post, tree, stump, building) to keep their animal held in one position. Due to the cattle squeeze cost and the price of shipping the manufactures of the product may not sell in as large of a quantity as they projected. Additionally, farmers in Nepal may be hesitant to buy the product due to the overwhelming size and complication of the system.

Opportunities: Due to Hi-Hog not shipping directly to Nepal, this opens up the chances for a link or supplier to buy and export this product to Nepal. For Nepalese farmers, the ability to control their animals with a more humane and safe manner. The cattle squeeze could also improve the longevity of the Nepalese cattle, allowing to administer and observe more often and at a greater occurrence.

Competition: There are companies in Europe that produce cattle squeezes, these companies could make a more affordable way of shipping these squeezes. These companies could possibly take business or enter the same market and compete with the Canadian cattle squeeze. Since the Squeeze is very expensive for an average Nepalese farmer, it would be suited for a community or group. This entails some issues of securing enough people to make the product reasonable enough for the entire community, as well as the group working together.

Part 2

Nepal

Nepal is a country that contains Himalayas as a setting, ancient religions like Hinduism and Buddhism, and separated form the world until the 1950s ("Nepal country profile - BBC News," 2016). Nepal is a land locked country between China and India. The country itself is 800km long and 200km wide, securing a land base of around 147 thousand

Fig 3 image from: http://www.infoplease.com/atlas/country/nepal.html

squared km, in comparison, Canada is roughly 64 times greater in land mass. Nepal's government was based on a monarchy system up until 2007, where they transitioned to a republic ("Nepal: Maps, History, Geography, Government, Culture, Facts, Guide & Travel/Holidays/Cities," 2016). Nepal has a population of 28 million, and over 70% of that population is employed in the Agriculture sector. However, the overall country is very poor, it is one of the worlds poorest countries with a GDP of roughly 21billion dollars, compared to Canada with GDP of 599.85 billion dollars ("World Bank Group," 2015). The Agroecological Regions of Nepal (from north to south) consist of the Mountains, Hills, and Tarai, these regions are based on altitude, crop and livestock production systems. The smallest region Taria being largely used for grain crop with small amounts of stall-fed livestock. While the more dominate regions of the Hills and mountains being more suited for grazing and pastured livestock. The styles of farming differ from agroecological region, for example in the hills Terrance farming is very popular to create level ground to work on.

Bovine in Nepal

As the agriculture sector is a large competitor in their overall GDP, animals and livestock play a major roll in their economy, and in their daily lives. The major bovine in Nepal include Buffalo, Dairy cattle, Ox and Yak. As the livestock in Nepal is not only used for sustenance, but as a way of transportation and heavy labour, the amounts of livestock in Nepal is immense. With the ability for labour the cattle carries a much higher belief in their religion and culture. The religion of Hinduism, as worship for cows is to be seen throughout the religions major texts. The cows sacred presence can be found back to lord Krishna, who is one of the religions most holy names. However, in intense Hindu regions like Nepal, the cow is not the only sacred piece, the

milk that they produce holds a high stature in religious rituals(PBS, 2015). The average household having 5.8 head of livestock, roughly three of that total tends to be a large ruminant such as a dairy cow or ox, this ratio is one of the highest proportion of livestock to humans in Asia (Beldangi, 2014). Cattle in Nepal is essential to live, family and religion.

Breeds and roles of Large Ruminants

The livestock breeds in Nepal are raised to produce milk and labour, while the dung of these animals is used as fertilizer for the soils and enriching the ground. The Hills and Mountainous regions contain mostly Yaks, and working Buffalo for transporting goods. While in the Terai, bulls and buffalo work to pull carts, as well in the lower regions of Nepal cattle are milked and used to produce important sources of protein such as milk. The breeds of large ruminants in the lower regions of Nepal consist of water buffalo cows for milking and bulls for pulling equipment. In the Mountains and hills the main bovine used is the water buffalo and yak used for carrying goods such as Sherpa bags and terrace style farming equipment (MISHRA, 2013).

Fig 4 image from: http://www.123rf.com/photo_10291462_asian-farmers-use-water-buffalo-to-plow.html

Pros at different economic levels in Nepal

Single farmer: Cattle squeezes would benefit a single farmer because with the small herd size they obtain, administering vaccinations and observing the animals well being will be much more simplistic and efficient. As of currently Nepalese farmers just use a halter and a rope to tie an animal in place, this can entail having to pursue the animal and get the halter around the animal's

head. While, with a squeeze, if the animal is corralled and run through the squeeze, under its own power the animal captures itself.

Group or Community of farmers: The cattle squeeze costing a enormous amount, having a large group or community part in on a squeeze together would lower the overall price of the unit itself to drop dramatically. Having a community buy in on this product together allows for the possibility to improve the total communities herd health and vigour. The community squeeze would also allow for the ability of bosting crop growth in the community as the labour animals such as buffalo can fit in the squeeze and kept healthy. Longevity is also a factor that can increase with the presence of a squeeze as any trouble calves that are born can be set to suckle off the cow by fitting the cow in the squeeze and enabling the squeezes secondary gates to open for proper access to the cow's udder.

Possible business beginnings: If a single farmer or entrepreneur where to buy a squeeze with the trailer option, they could travel and operate a business. Leasing or hiring their expertise with the squeeze a single farmer could travel through a village and operate a service of veterinary work as well as tagging and marking cattle. The entrepreneur could travel from village to village in a circuit.

Government: As the leading religion in Nepal is Hinduism the government would be cast in good light investing in pro cattle and proper cattle handling equipment. As well, having a large portion of their GDP being based on Large livestock, investing in this sector would help increase the productivity of it allowing for an increased income in the livestock sector.

Marketing Strategy

The market strategy that would best suit this product being successful in Nepal would entail someone who is bilingual and able to talk and interact with the local farmers traveling from Canada to Nepal. This interpreter would travel to the targeted areas of Nepal in the Terai and Hills regions, finding respected dairy, grain and terrace farmers who would be hired to help train locals with the squeeze. The Canadian representative would train and teach the Nepalese farmers on proper use and safety precautions while using the squeeze. With the proper training and ability to operate the squeeze, these selected Nepalese farmers would be able to drum up business through word of mouth. From that point, if all is successful the supplier may be able to set up distribution points in Nepal allowing for a more active business model to be set in place.

Conclusion

The idea of cattle squeezes being used to benefit the cattle and bovine industry is an idea that carries a lot of promise. Today in Nepal the average farmer just uses a halter and a rope to secure the animal, but it allows for side to side movement of the animal which can be dangerous for the handler and the animal itself. Having a sturdily and properly built squeeze would allow for a safer and controlled environment for the handler to get access to the entire animal, and carry out multiple procedures from tagging to veterinary care. The attachable trailer to the squeeze would allow for portability through out Nepal. Allowing a community or group to bid in on it together would not only make it cheaper however, it would allow for an increased longevity and overall heard health. The Squeeze would allow for multiple job opportunities in Canada and Nepal, creating jobs in metal fabrication, welding, trucking, marketing, communications and design in Canada through building and shipping of the product. While in Nepal, the jobs available would arise from opportunity, a farmer could purchase a unit to run their own service.

Subsequently at the same time, the Squeeze's price tag is overwhelming, the average farmer in Nepal does not make enough money to pay for the product and shipping. There are complex issues associated with a community of farmers buying a unit as well, as it would take a large number of farmers to chip in throughout multiple communities. This multi-community sharing of the product would raise a few issues; the amount of farmers bidding for the product would create issues in sharing the single unit evenly, while for the company and third party link, building and shipping the squeezes would not be realistic if only a couple units leave for Nepal. For the current way of securing cattle in Nepal if only running 3-4 head of cattle, a halter and rope work effectively enough to make a large metal squeeze redundant.

Overall, shipping Cattle squeezes to Nepal is not realistic. If a cheaper way of manufacturing and shipping comes around the project would be possible but not likely without serious funding. The squeeze would benefit Nepalese farmers, however with the overall price, it does not make sense to override the current method. As well before the product could get to Nepal a third party would have to step in and invest heavily into shipping, this third party creates a uncertainty point and could fold at any moment halting process.

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