

**Implementing Calf Pullers in Nepal**

Jeroen Slits Guelph

November 24, 2014

Brandes Struger-Kalkman

## **Product Info**

### **Product description**

The product that is being introduced is the Vink calf puller. The Vink Calf puller is a piece of equipment used to aid dairy cows or beef cows in the delivery of a calf (*Calf Pullers for*, 2014). This tool has a very simple, plus functional design, very easy to use and practically indestructible, which is sure to give a long and trouble free service. Some advantages of the Vink calf puller are, it can be used individually, and it is impossible for the tool to slip away from the cow. The tool allows pulling tension straight, upwards for posterior presentation and downwards towards the udder to have a normal birth(*Calf Pullers for*, 2014). What this means is, it is very flexible so it can be used when the cow is giving birth while standing or lying down. As presented in figure 1 the design shows to have a 71-inch vertical pole with a rotating lever system, which greatly assists maneuvering the calf during birth. (*Welcome, 2003*) The bars on the end of the calf puller are meant to support the cow and make sure it does not slip out of position. The calf puller comes with two nylon ropes, which you must tie to the calf's legs and then hook the knots on to the little latches located right by the lever mechanism. The calf puller has the availability to have a standard ratchet or an alternate action ratchet (*Welcome, 2014*). The standard ratchet allows for the individual to pull out the calf while only pulling the action ratchet backwards (*Calf Pullers for*, 2014). The alternate action ratchet allows for the individual to pull out the calf while moving the action ratchet, jack forwards and backwards (*Calf Pullers for*, 2014). When using the Vink calf puller on the cow you must make sure this process is done slowly. When the calf's legs are out of the

mother's vagina this is where you attach the ropes to the calf's legs. Just as your using the jack to pull out the calf you must do this in a timely manner and in the rhythmic patterns of the mother's contractions. Once the head is out this is when the difficult part is done and you can continue to pull out the calf in a decent pace. Doing this process in a timely manner is important because you do not want to give the cow any extra stress during the birth of her calf.

#### Critical analysis of the product and Canadian Company

The Vink calf puller is manufactured in the Netherlands and exported out to Canada where it is distributed by many other companies (Arno Janssen, Personal Communication, October 1, 2014). One company that sells the Vink calf pullers is A&A E-Z Brush and Oiler Inc. from Strathroy, Ontario. A&A E-Z Brush and Oiler Inc. is a family-based organization that began in 1987 (Welcome, 2014). The owners of this company are Arno and Angela Janssen. A&A E-Z Brush and Oiler Inc. sells many different products specifically towards the dairy industry that are in use all over the world. Some of those products are a cattle brush, a pasture pump, a boot disinfectant, wheelbarrows, cow lift, head gate, and many other products (Welcome, 2014). One of the many benefits Canada could get from the Vink calf puller is there might be a possibility of the product being locally manufactured. The only way this would work is Canada would need to sell this to many developing nations that have lots of dairy or beef cattle. The one problem of it being locally manufactured is Canada would need to get the rights for making the calf puller from the Netherlands since there are patents in place (Arno Janssen, Personal Communication, October 1, 2014). The retail price of the Vink calf puller is \$385 (Calf Pullers for, 2014). One of the main

products used to make the calf puller is stainless steel. Thirty countries in the world manufacture stainless steel today (*ISSF Annual Review, 2012*). Asia makes close to seventy percent of the world's stainless steel and China accounts for almost forty percent of Asia's production. To add to that Western Europe with Africa, the United States of America and Central Europe are in the top five for producing stainless steel (*ISSF Annual Review, 2012*). However the Netherlands manufactures their own stainless steel together with Germany. So many of the products to make the calf puller is very localized around the Netherlands (*Profile, 2011*). None of the products to make the Vink calf pullers comes from Canada.

### Process of Calving

One of the many reasons the Vink calf puller was created was due to calving problems. Due to genetics many cows have a good calving ease but others cows have difficulty with calving. There are two common positions for the calf during calving (Alberta Agriculture and Rural Development, 2000). Ninety five percent of calving's is where the head is tucked between the front legs and calf comes forward as shown in figure 2 (Calving). The second is due to a high incidence of dystocia, calving problems, this is where the calf comes backwards with the back feet first. Dystocia can occur where there are deviations from the two positions. If there are postural changes such as the calf's leg turned back, this must be corrected before the delivery can take place. Corrections must be done as soon as possible because if there is any delay it will wedge the calf more firmly into the birth canal, which will make the corrections way more difficult. There are two stages of labour for a cow. The first stage is the preparation of labour. This is where the ligaments of the pelvis and the

associated structures relax. The cervix, vagina, and vulva all dilate to facilitate the passage of the calf. The second stage of labour can be identified by the appearance of the water bag. Cows should not get more than one hour after the water bag is identified before being checked to see if the calf is in the right position. If the calf is in the right position and by judging by the cow you might not need to assist the cow (Alberta Agriculture and Rural Development, 2000). However as the farmer you want to be present at all times when the cow is calving. But, if there is a difficult calving there are five important do's and do not's that are important to follow. (Alberta Agriculture and Rural Development, 2000) Do be gentle, be clean, recognize your own limitations, check the cows birth canal after the calf is delivered, and make sure the calf gets at least two liters of colostrum, Cow's first milk, as soon after the delivery. The five do not's are do not wait too long to interfere, do not do the job without clean water and soap, do not use tractors to pull the calf off, do not pull on the calf unless you feel either two front feet and a head or two hind feet and a tail, and do not delay calling the veterinarian in difficult cases (Alberta Agriculture and Rural Development, 2000).

### **Export Potential to Nepal**

#### Intro to Nepal

Nepal is a landlocked country between China and India (Bhandary, n.d). Nepal has a total area of 147,181 square km and has a total population of 28 million people. Nepal is divided by 3 geographical regions, the Himalayan region, the Middle Hill region, and the Terai region. Forty percent of Nepal is divided into the

Himalayan region. Nepal is also split up into five development regions which are the eastern region, the central region, the western region, the Midwestern region and the far western region (Bhandary, n.d). Nepal has four distinct seasons since it is influenced by maritime and continental factors (Raja Khanal, Personal Communication, October 3,2014). Spring is from March until May and has temperatures with usually 22<sup>0</sup>C. Summer is from June until August with temperatures reaching higher then 30<sup>0</sup> C during heat waves. Fall is from September to November where temperatures reach a maximum of 25<sup>0</sup>C to a minimum of 10<sup>0</sup>C. Nepal's winter time is from December to February where temperatures can reach below zero and there is usually snow on the mountains and some hills(Raja Khanal, Personal Communication, October 3,2014). The elevation starts from 70m from sea level from Kanchan Kalan in Terai and passes though hilly region to the world's highest point Mount Everest at 8,850m(*About Nepal, n.d.*). Most people in Nepal practice Hinduism but some people also practice Buddhism for religion(*Articles Nepal, 2014*). The currency used in Nepal is rupees and the conversion is 89 rupees are equivalent to 1 Canadian dollar(Raja Khanal, Personal Communication, October 3,2014). Nepal's main trading partners are India at sixty four percent, Europe at eleven percent, USA plus Bangladesh both at seven percent and China at three percent (Ministry of Foreign Affairs of Denmark, n.d). The major industries in Nepal include tourism, carpets, textiles, rice, sugar and oilseed mills. Nepal's main exports are carpets, clothing, leather goods, jute goods and grains. Nepal is a parliamentary democracy with a President as head of state and Prime Minister as Head of the Government. A six hundred and one seat constituent assembly was elected on April

10, 2008 but was dissolved in May 20011. There still has yet be a permanent constitution yet to be agreed upon. The President of Nepal is Dr. Ram Baran Yadav and the Prime Minister is Khil Raj Regmi. There are four major political parties in Nepal which are the Unified Communist party of Nepal, Communist party of Nepal, Nepali Congress, and Madhesi People's rights Forum- Democratic (Ministry of Foreign Affairs of Denmark, n.d).

### Agriculture in Nepal

Nepal is very much characterized as an agricultural country. It accounts for thirty percent of the Gross domestic product, sixty six percent is engaged in agriculture and eighty six percent of the total population is found in rural areas (Paudel, Meulen, Wollny, Dahal, & Gauly, 2009)). Nepal has a lot of subsistence farming compared to commercial (Raja Khanal, Personal Communication, October 3,2014). Where as in Canada there is a lot of commercial farming. The plains in Nepal get farmed year round, which is usually three or four crops on the same land. As compared to Canada where only one crop is used a year. The price of land in Nepal is \$100,00 Canadian dollars for one hectare, which is very expensive, compared \$20,000 per acre here. Many farmers use the seed from last year's crop and re plant. The most planted crops in Nepal are cauliflower, mustard, maize, and rice(Raja Khanal, Personal Communication, October 3,2014).

### Dairy Farming in Nepal

The government in Nepal has set an agriculture perspective plan through for the next twenty years to increase economic growth in the agriculture industry(Paudel et al, 2009). The plan aims for about five percent growth each year

and increase the income from half a percent to three percent. The government has given its first priority to Dairy as it has an expected annual growth of 6.1 percent(Paudel et al, 2009). Fifth teen to twenty years ago buffalo produced more milk than cows(Raja Khanal, Personal Communication, October 3,2014). Now there is less buffalo in Nepal but still producing a good amount but not as much as cows. The price of milk in Nepal ranges from 45 rupees to 60 rupees. While the farmer receives 25 rupees for every liter of milk. The milk from the farmer is usually collected and sent to the city. Nepalese farmers care very much for their cows, as it is a very sacred animal. They are not allowed to kill cows due to Hindu worship (Raja Khanal, Personal Communication, October 3,2014).

#### Artificial Insemination in Nepal

Nepal has thirteen million cattle and Buffalo, however only two million produce an average of two liters per day(Liu,2013). In 2011 the National Livestock Breeding Center was given a budget of one hundred million rupees by the government to produce and distribute semen throughout the country. By using semen from high breed bulls farmers can produce and improve production traits. Crossbred calves can almost double of what their mothers gives. Artificial inseminated breeds have the potential to produce 20 liters per day. Within a year the National Livestock Breeding Centre was able to quadruple their semen production, which was then distributed to 58 districts in Nepal. In just over a year in 2012, 130,000 artificially inseminated calves were born. The famers are now way better off due to higher yields in milk from the cows. Three cities used to import 200,000 liters of milk every day, but now are using locally produced milk from the

cattle and buffalo of Nepal. Currently there is now 500 community livestock breeding centers across the country, which help in the distribution of semen and supervision of the inseminators. There are 600 inseminators that are spread across the country and the National Livestock Breeding Center provides them with equipment necessary to breed (Liu, 2013). This is all relevant to the product because if artificial insemination stays popular in Nepal then more superior plus bigger calves are being born. Genetics will start to improve and compare to bigger markets like Europe and North America. With this happening there will be a great demand for the calf pullers, as more calving problems will occur.

#### Buyers

The potential buyers for the Vink calf pullers would be all the Nepalese dairy farmers. In Nepal, most of the farmers in rural areas don't have access to veterinarians so they must pull calves off with improper tools (Raja Khanal, Personal Communication, October 3, 2014). In commercial dairy farming they are trained or have good access to veterinarians during cow pregnancy (Raja Khanal, Personal Communication, October 3, 2014). If Nepal had the equipment and some training, the Vink calf puller may be very practical for dairy farmers there. Due to this fact it shows that veterinarians are also a very good potential buyer. The main important thing to know for the Nepal dairy farmers is they must clean plus sanitize the ropes and the Vink calf puller very well. This is an important step because disease can spread if not cleaned properly.

#### Transportation costs

For transportation logistics, since A&A E-Z Brush & Oiler Inc. is located in Strathroy, Ontario shipping must start from there. From Strathroy, Ontario it may be shipped by in-land transportation to Toronto, Ontario which is a 200 km trip (*Sea Lines*,2014). From there, the product is shipped more than 4000km from Toronto, Ontario, to Vancouver, B.C. by train(*Sea Lines* ,2014) . From Vancouver, the product is shipped with a cargo ship to a seaport in India or Bangladesh. Since Nepal is a landlocked country the product must be sent to either India or Bangladesh. From this destination, the product goes by train through India and makes it way to the nearest cargo station in Nepal. Now the product must be stored in warehouse in Nepal and distributed by the farmers. There are many different way you can ship the product from Ontario to Nepal, but doing it by Cargo ship is the most cost efficient. In the following table it will show the cost of shipping to different areas around Nepal.

#### **The Different ways to ship to Nepal from Canada**

<b>Type of Shipping</b>	<b>From</b>	<b>Destination</b>	<b>Cost per Unit</b>
Ocean Freight	Vancouver, British Columbia	Nhava Sheva, India	\$37.42 USD
Ocean Freight	Vancouver, British Columbia	Chittagong, Bangladesh	\$43.59 USD
Air Freight	Toronto, Ontario	Katmandu, Nepal	\$97.19 CDN

Ocean Shipping to India from Canada: Ocean Shipping Services

A1 Freight Forwarding

<http://www.a1freightforwarding.com/country/ocean/india-9/>

As shown in the above table, Ocean freight from Vancouver, BC to Nhava Sheva, India is the cheapest (*Ocean Shipping, 2014*). If you ship the calf pullers in boxes and they are in 15 by 71 by 10-inch boxes each and weight about 15 kilograms the total cost to ship one hundred calf pullers would be \$3742.48 U.S. dollars. The rates of shipping are \$6 U.S. dollars per cubic foot and the total volume of 100 calf pullers would be 616.32 cubic feet plus a \$45 processing fee. The time travelled to get the calf pullers from Nhava, Sheda to Katmandu, Nepal is thirty-three hours. The reason that Bangladesh is more expensive to ship to than India is because the rate to ship to Bangladesh is \$7 U.S. dollars per cubic foot. Airfreight shipping is way more expensive than the other two methods because the rate is based on weight, which is \$3.10 Canadian dollars per kilogram (*Ocean Shipping, 2014*). Even though it seems really expensive to ship the calf pullers by airfreight this is the finalized cost for shipping. For the two others the train cost is not included but it would not be much more cost per unit.

#### Future studies and competitive products

Future studies required and unknowns of the product are the labour costs. Finding out how much the Nepal dairy farmers would need to work to get the product would be good to know since the farmers do not make as much as over here. Another unknown is the total transportation costs to get to Nepal. Since the train costs are unknown that would need to be found out to see how much the total shipping actually costs. Other future studies include grants and subsidies from the Government that the Nepalese farmers could get to buy the Vink calf pullers. On the

market currently there is no competitive products for the Vink calf puller. Due to patents the Netherlands owns the Vink calf pullers and there are no other calf pullers on the market (Arno Janssen, Personal Communication, October 1, 2014). The only thing comparable to the Vink calf pullers is the use of hands to pull of the calves or just normal ropes.

In conclusion the Vink calf pullers could be a beneficial product towards Nepal. However, for Nepal it seems a bit to expensive piece of equipment for them. After the retail price and the shipping costs the total could cost up to \$450 Canadian dollars. This would mean that Nepal dairy Farmers would need to work a long time before they had it payed off. Future recommendations for potential Canadian exporters would be to export this to other countries who do not have the Vink calf puller. A good target market would be to send it to New Zealand. New Zealand has a very big market for dairy and it could be a very useful product for them in the future.

**Appendix**

**Figure 1**

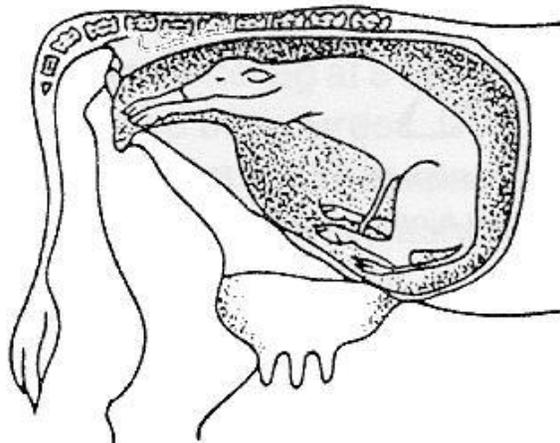
Structural Design of the Vink Calf Puller



<http://bainbridgevet.com.au/shop/calf-pullers-vink/>

**Figure 2**

Proper Position of calf during calving



[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex3451](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex3451)

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