

Exporting Low Cost Brewery Equipment to Nepal

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Nepal

Nepal is a land locked country in between China and India. Nepal is approximately 140,000 square kilometers, with a population of about 28.9 million. Of the population about 23.4 million people are Hindu. Nepal has a 45% literacy rate, and a 46% unemployment rate (Nepal, 2013). About 80% of the population depend on agriculture as their income (Smith, 2009). The agriculture industry generates approximately 33% of the country's GDP (Smith, 2009). About 60% of the population does not have electricity (Nepal- Hydropower, 2013). Nepal has a very wide range of land climates and environments. In the northern side of Nepal is the Himalayas, these are the rocky mountains. In the south side there is the Terai region, this is the most fertile and flattest land. In the middle between the two regions is the Mid- hill region, this area is full of caves and natural landmarks, religion is very strong in this region (Board, 2012). The low cost brewery equipment would be beneficial to the Terai and the Himalayas most. The Terai because there would be an increase in demand for barley. The brewery equipment would help the Himalayas because it will create an abundance of malt and barley straw. Both can be used as animal feed. Also the stubble that is left in the field can be used as pasture for the grazing animals.

Part I

Low cost brewery equipment would help the Nepalese farmers and the Nepalese government in a productive way. The positive impacts that would occur in the presence of a brewery in Nepal would be the increase demand for barley for the farmers, a new feed will be produced near the farmers, the added source of income for the community that has the brewery,

and the increase of jobs for the community. These impacts will increase the productivity for the farmers and help the Nepalese economy.

The process that is used in the creation of beer is in several steps. First the barley is soaked in cold water for about 3 days, this creates the malt. Then the malt is crushed and mixed with warm water, this creates the mash. Next the mash is heated and cooked so the enzymes will break down the starch. After this the mixture left for the solids to settle to the bottom, then the liquid part of the mixture is drained through the solid mash at the bottom of the tank (Beer, 2014). The liquid is transferred to a brewing barrel where the yeast is added and beer begins to ferment. The beer will stay in the brewing barrel for a set time depending on the recipe used. The beer is then pasteurized to kill the remaining yeast to stop the fermentation and then packaged for sale. Depending on the recipe, other ingredients, like hops, are added at various stages in the brewing process (Beer, 2014).

The product that would be shipped to Nepal is the brewing kettle and brewing barrels. Every brewery that is going to be built will have to have a brewing kettle and the number of brewing barrels depends on the estimated size. Another piece of equipment that would be necessary in a larger scale brewery would be a malt crusher. For the start of a small brewery the malt could be crushed by hand, but with the growth of the brewery a malt crusher would be a good investment.

The brewery equipment that would be sent over to Nepal would be from the Canadian company Specific Mechanical Systems Ltd. Specific Mechanical Systems Ltd. is a company based out of Victoria, British Columbia. They custom build steel equipment, and they specialize in the brewery equipment (Specific Mechanical Systems Ltd., 2010). The brewery equipment is made by trained metal workers and are made from austenitic and duplex stainless steel, nickel

alloy, aluminum, titanium, and carbon and alloy steel (Specific Mechanical Systems Ltd., 2010). All of the supplies that are used in the production of the brewery equipment are from Canada. Specific Mechanical Systems Ltd. also employ about 100 Canadians (E. Robertson, personal communications, November 13, 2014).

The amount of the brewery equipment that will be needed will all depend on the target size of the brewery that will be built. The size of the brewery will depend on the location of the brewery. If the brewery is central to a farming community then the size will need to be bigger than a brewery that is built in an inconvenient spot for the farmers. The price of the brewery will be based on the number of the brewing barrel that are bought. The price of one brewing barrel is about \$3000 or about 262,800 Nepalese rupees (E. Robertson, personal communications, November 13, 2014). The price of this equipment is too expensive for the average Nepalese farmer. But the target consumer is the already existing brewery business that is looking to expand their business and their production. There are many breweries that are established in Nepal. There are about six major breweries that are in business in Nepal (Palikhe, 2013) that could expand their production with the new brewery equipment.

The number of employees that would need to be hired will also depend on the size of the brewery that is going to be made and the style of the equipment that will be used. If the brewery does not have a malt crusher than they will have to hire some employees to crush the malt by hand. The style that the brewery heats their brewery kettle (i.e. if it is heated by wood fire, or electric, or gas) will also raise or lower the number of employees required.

A brewery has a very small amount of waste. There are many by- products that are created in the process of beer making. The main by- product of a brewery that is left over after is

the mash. This mash makes a very healthy animal feed. Another by- product is the residual yeast. The residual yeast is a very high source of protein B, this can be used as an additive to food or it can be used by local pharmaceutical companies (Beer, 2014). The last by- product that is created is the used hops can be filtered out and used as fertilizers (Beer, 2014).

One of the benefits that would help the Nepalese is that the demand for barley would go up. In Nepal barley is already a crop that is grown (Smith, 2009), with a brewery near the farmer the demand for local barley will go up. This will create a greater margin for the farmer selling the barley and will cut down on the cost or the labour in transporting the barley to the regular consumer. Barley is also is a very multi use crop, when barley is harvested the straw can be used as animal feed or bedding, the seeds can go to the brewery, the stubble that is left can be used to graze animals, and when the barley has been used by the brewers it can be used as animal feed again.

The next benefit to Nepal would be the new supply of feed for the animals. Nepal has a wide variety of farmed animals. Cows, buffalo, oxen, and goats are some of the main animals (Analysis: Why livestock matters in Nepal, 2013). These animals are used for milk and working the fields, and some people use them for meat. Farmers usually graze these animals because they do not have enough land to make feed or enough money to buy the feed. With a brewery close there will start to be an abundance of low cost feed, the malt. The malt is very healthy for the animals, it is full of protein and essential fatty acids (Stallings, 2009). The barley straw can also be used as low cost feed or is could be used for bedding for the animals.

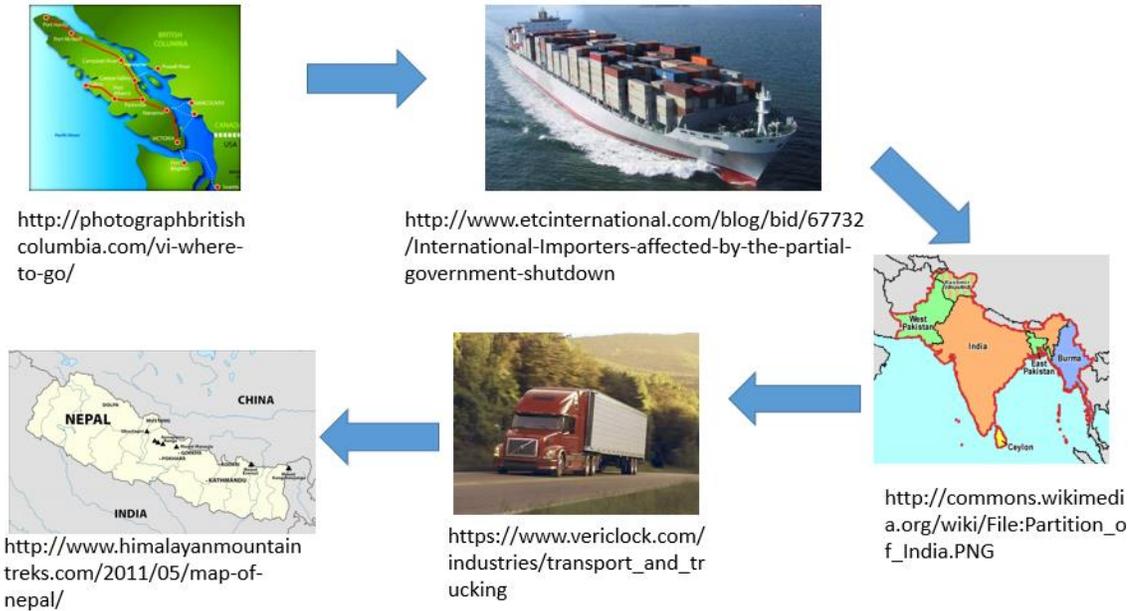
One more benefit to the Nepal would be that there is a new source of income for the community. The Nepalese people would benefit greatly from the presence of the brewery in their

community because it would create a new line of work for the unemployed. A brewery would be able to supply Nepalese with jobs, and increase the money flow through the community. In Nepal the alcoholic beverages have a very large duty to pay to import alcohol into the country, the duty is 100% (Nepal - Customs and duties, 2003). With more breweries in Nepal there will be more local alcoholic beverages for the Nepalese people to drink, for a lower cost.

The benefits that would occur toward Canada would be the increase of business for the Canadian company Specific Mechanical Systems Ltd. and the increase of business for the company that will be hired for the transportation the equipment to Nepal. Specific Mechanical Systems Ltd. is an all Canadian company that hires about 100 Canadians and they use as many Canadian supplies as possible. This would create more business for the companies and therefore creating more jobs for Canadians. With the increase of trade and business between Canada and Nepal a stronger relationship will grow for the future.

Part II

The most ideal way to transport the brewery equipment is through ocean freighters. The freight would take the brewery equipment from Victoria, British Columbia to the shores of India and then it would have to be trucked to the destination in Nepal. The freight company would be a Canadian company. The company Specific Mechanical Systems Ltd. is located close to the shore of the Pacific Ocean, the cost to bring the product to the freight yard will be very low cost. Specific Mechanical Systems Ltd. does not cover the cost of shipping in their quote that they give (E. Robertson, personal communications, November 13, 2014).



Once the equipment has arrived in Nepal it will have to be installed in a building with the right qualifications. The building must have a good source of clean water, good ventilation, electricity, and good drainage. There must also be storage for the unused barley and for the brewed products (Specific Mechanical Systems Ltd., 2010). The building must also have a source of heat for the brewing kettle (Specific Mechanical Systems Ltd., 2010). With the thought of growth in the picture the building should also have the room for expansion, i.e. taller ceilings and a larger floor for storage and bigger equipment. This will also create another challenge for the Nepalese that is going to be putting up the brewery, because it will create another cost that they will have to pay. The building requirements will be very expensive. The electricity, the barley, the other ingredients, and packaging will be the only cost of production for the brewery once it is up and running.

The cost for the brewery would be expensive and the income will not be immediate to the brewery. That is why the target buyer for the brewery equipment is the already established breweries in Nepal. But the price of alcoholic beverages that are imported into Nepal are very

expensive, they have a 100% duty charge (Nepal - Customs and duties, 2003). With a brewery there won't be as much needed to import in. Nepal is the boarder for China and India. These countries are the two most populated (The World: Population (2014) - Top 100+, 2014) in the world. The market is already there for Nepal. In 2010 Nepal exported approximately 15 million United States dollars' worth of alcohol and tobacco products (Sapkota, 2011).

The target buyer is the already established breweries in Nepal. These breweries are the target buyer because they have the money to start the brewery and they have the marketing and they already have a recipe that is perfected and is already in demand. Nepal has six major breweries already established (Palikhe, 2013). Anyone of these breweries could be looking to expand their business.

The brewery will provide local men and women with jobs that they are capable of doing. For example a group of teenage boys can work as the malt crushers. The brewery has a range of jobs, some more labour intensive than others.

Some of the challenges with transporting Canadian brewery equipment to Nepal is that there is much cheaper equipment from China (Beer Stainless Steel Brewing Equipments, 2014). This equipment is a third of the price, much more affordable for the Nepalese people. This equipment is only 87,600 Nepalese rupees (Beer Stainless Steel Brewing Equipments, 2014). This equipment is made by the Chinese company Wenzhou Flowtam Light Industry Machinery Co., Ltd. (Beer Stainless Steel Brewing Equipments, 2014). The equipment from China is also much closer and therefore cheaper to import. The competition from China is going to be very difficult to compete against, Canada will have to lower the price some way. Canada could start to buy cheaper materials, even if it means buying from non- Canadian suppliers. Even though the

price is cheaper the equipment from China is also smaller brewery equipment (Beer Stainless Steel Brewing Equipments, 2014). This means that if the brewery is successful, they will have to buy a whole new system in order to expand their business. But the cheaper equipment from China would most likely be the smartest choice for the Nepalese business, and then buy the bigger equipment after they get a demand for their product and they need to increase their production.

Not only does China pose as a competitor other Canadian companies or companies for the United States will start to compete with Specific Mechanical Systems Ltd. These companies will try to lower their prices in order to get Nepal's business. This is not a bad thing for Nepal, they will get the better end of the competition. But the company Specific Mechanical Systems Ltd. will have to deal with this potential set back.

Another issue might be the increase of alcoholism in Nepal. In Nepal alcoholism is one of the biggest medical and social problem. Many Nepalese already suffer from alcoholism or abuse from someone that suffers from alcoholism (Rai, 2003). Approximately 15-30% of the patients that go to the hospital are related to alcoholism, directly or indirectly (Rai, 2003). With the increase of breweries in Nepal there will be an abundance of alcohol near the people. This will not help the cause or the efforts of the people that are trying to solve the issue. The treatment for alcoholism is a very expensive treatment and is way more than the average Nepalese can pay. The cost of the treatment is 3000- 5000 Nepalese rupees for a three month of treatment (Rai, 2003).

In conclusion low cost brewery equipment would be beneficial to Nepal in many ways. The brewery equipment would be bought from Specific Mechanical Systems Ltd. The low cost

brewery equipment would create many jobs for the community that it is built in, the brewery would benefit farmers, and the brewery equipment would increase the business in the brewery industry. The brewery equipment would benefit the farmers because it would create a greater demand for the barley that is already grown there and it would create more low cost feed for the animals. The low cost feed will come from the malt after it has been through the brewery, feed will also come from the unused barley straw, and the stubble that is left in the field can be used to graze animals on. The major competition will be from China, they have products that are cheaper and they will not have to pay as much to ship them to Nepal. Another issue might be the increase of alcoholism in the country with the increase of ease to get alcohol for cheaper prices. Therefore, the import of low cost brewery equipment to Nepal will have its negative impacts it will also have very many and very helpful positive benefits.

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