

# Canadian Exports Assignment

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## Part 1 – Product Information

### Product Description



Figure 1. ASC-3 (Agriculex Inc, 2011)

The product that would better agricultural production in Nepal would be the Agriculex ASC-3 seed cleaner. This product comes from a company called Agriculex Inc., located in Guelph, Ontario (Agriculex Inc, 2011). This seed cleaner features a design that cleans seed accurately and efficiently with no chance of seed carryover

(Agriculex Inc, 2011).

It does this through the steep air column that separates seed with high precision which delivers a clean sample with minimal seed losses (Agriculex Inc, 2011). The operator can adjust the rate at which the seed flows through and the level of air flow (Agriculex Inc, 2011). It also includes two pans and a dust sock which makes working conditions much more tolerable for the worker (Agriculex Inc, 2011).

Figure 2 below demonstrates exactly how the machine works. The dirty seed is poured

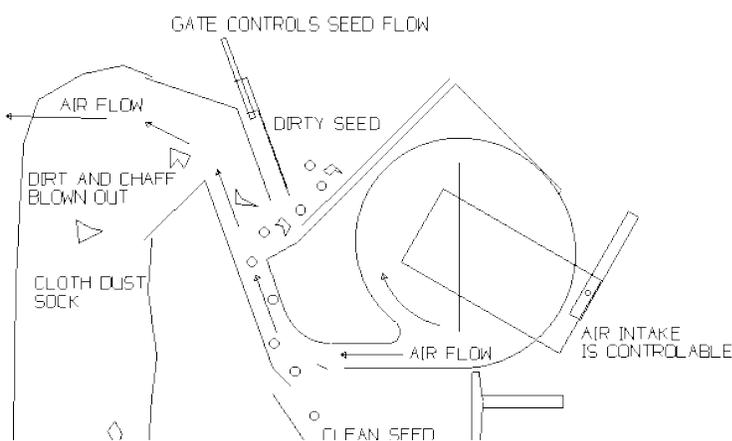


Figure 2. ASC-3 Function (Agriculex Inc, 2011)

into the top and is intercepted by the airflow coming in the side which forces the dirt and chaff into the cloth dust sock where it is collected (Agriculex Inc, 2011). Clean seed is then free to fall to the bottom (Agriculex Inc, 2011). A

variety of screen sizes can also be requested and purchased for the seed cleaner making it useful for multiple types of crops (Agriculex Inc, 2011). It can clean between 1-20 kg/minute depending on what crop is being cleaned and how clean it must be; the slower it goes the cleaner the seed (Agriculex Inc, 2011). The machine is 66 cm high, 40 cm wide, 77 cm long and weighs 41 kg (Agriculex Inc, 2011). Overall, it costs 4,326 dollars Canadian and 267,087.24 rupees (Agriculex Inc, 2011). To contact Agriculex Inc, they can be emailed sales@agriculex.guelph.org and telephoned at 1-800-810-8093 (toll free Canada and US) or at 519-837-0871 (Agriculex Inc, 2011). They can also be faxed at 519-837-4291. Their address is 1-59 Suburban Avenue, Guelph, Ontario, N1E 6B4 (Agriculex Inc, 2011).

### **Labour and Inputs Required**

As far as labour, there will be a few areas where it will be needed. There will be labour needed at Agriculex Inc. although the cost of this is included in the price of the seed cleaner unless the seed cleaner becomes very popular in which case they may need more labour which could potentially affect prices. Labour would also be necessary for transportation to pick up the seed cleaners from Guelph, transport them to the airport and then transport them from the airport in Canada to the one in Nepal. Once in Nepal, labour will be required to distribute the seed cleaners across the country. Inputs that would be required in order to produce this product would be metal for the seed cleaner itself as well as electricity and possibly some assembly machinery. After the seed cleaner is made, inputs required will be a truck and airplane for transportation as well as fuel for both of these.

Some of the costs of these inputs would be hard to determine exactly how much they would be but it can be roughly estimated. Minimum wage in Ontario is 11 dollars an hour (Ontario Ministry of Labour, 2014) so at least this amount must be paid to anyone working at

Agriculex Inc. to make the seed cleaners and to anyone transporting them from Guelph to the airport. However, since some of this labour may require some experience or extra skill or licensing, a somewhat higher wage will most likely be paid. In Nepal, the minimum wage is 8,000 rupees per month (GRS, 2014) which would have to be paid to anyone in Nepal hired to distribute and sell the product there. However, like Ontario this could also change depending on skill level or experience required. The cost of fuel currently in Ontario is fluctuating between 105-113 cents per litre (Gas Buddy, 2014) and the cost of fuel in Nepal is fluctuating between 127-133 cents per litre (Global Petrol Prices, 2014).

### **Market Opportunity**

The ASC-3 seed cleaner would be aimed mostly towards Nepalese people looking for a small business opportunity. This could be a villager looking to do contract work for farmers although the work would be seasonal, around time of harvest. Another situation would be a farmer looking for supplemental income as the time when business would be high would be during harvest when their crops are off anyways and they may have time to take on the extra work. Not only would they be able to make money by doing custom work for other farmers surrounding them, but they would be able to have it for personal use and have a better crop themselves. This could also be marketed to a village as a whole as a product to share. This could be viable if there are enough people willing to invest together in order to make it reasonably priced for each individual person.

### **Benefits to Canada**

This product would benefit Canada as the seed cleaner is sold by a Canadian company located in Guelph, Ontario. This could help the company to increase profits as well as possibly

expand. If the seed cleaner does well being sold in Nepal, it could create a whole new market for Agriculex Inc. If many grain cleaners are being sold, this could create jobs for Canadians in the company and potentially lead to developing a grain cleaning model that suits Nepal specifically (i.e. a machine that supports their electricity needs). Since it is also manufactured in Canada, Canada is benefiting from selling the materials required to build the seed cleaners (Agriculex Inc, 2011). Canadian fuel would also be sold in order to transport the products further supporting the Canadian economy.

## **Part 11 – Export Potential to Nepal**

### **Introduction to Nepal**

Nepal is a landlocked country that lies between India and China (New Agriculturalist, 2009). It contains 8 of the 10 highest peaks in the world including Mount Everest (New Agriculturalist, 2009). It has 23 districts which are divided into three climate zones: the Terai which is sub tropical, the temperate hill region and finally the mountains (New Agriculturalist, 2009). Unlike Canada with its four seasons, Nepal has five: spring, summer, monsoon, fall and winter (Naturally Nepal, 2012). In the Terai region, temperatures can reach above 37 degrees Celsius in the summer and lower to between 7-23 degrees in the winter (Naturally Nepal, 2012). In the hill and mountainous regions, temperatures can reach below zero degrees Celsius (Naturally Nepal, 2012).

It is one of the most poverty stricken countries, with only about a third of the population over the poverty line (New Agriculturalist, 2009). Agriculture is a major portion of the economy in Nepal, providing jobs to over 80 percent of the population and accounting for 36 percent of the gross domestic product (New Agriculturalist, 2009). Due to the different climatic regions, a

variety of different crops are grown. In the Terai region, rice, pulses, wheat, oilseed, jute, indigo, barley, tobacco and opium are often grown (New Agriculturalist, 2009). In the hill region, rice and corn can be grown when it's hot in the summer and during the winter, wheat, barley and vegetables can be grown (New Agriculturalist, 2009). In the mountains, not very much can be grown except for some potatoes and barley (New Agriculturalist, 2009). Yaks and goats can also be kept in the mountains which provide meat, wool and milk (New Agriculturalist, 2009).

### **Transportation Logistics**

Due to the fact that Nepal is landlocked, the most direct way to ship the seed cleaners would be by air. This can be done through UPS, who would transport them directly from Guelph to the airport and fly them to Kathmandu (UPS, 2014). To transport 20 seed cleaners, it would cost 2,682 dollars (UPS, 2014) in total which would come to \$134.10 per seed cleaner. Base transportation accounts for the majority of the cost at \$1,533.40 (UPS, 2014). The surcharge for fuel is \$902.00, security fee is \$139.40 and NAV Canada fee is \$57.40 (UPS, 2014). Once the plane lands in Nepal, it will need to be distributed throughout the country to many different locations. As mentioned before, the price of gasoline in Nepal is between 127-133 cents per liter (Global Gas Prices, 2014). The exact price of gas needed cannot yet be calculated until it is determined where the seed cleaners will be delivered. The fuel efficiency of the trucks used would also come into play in determining the total price of gas.

### **Needs and Benefits to Importing Nation**

The ASC-3 seed cleaner would be largely beneficial to improving agriculture in Nepal. Threshing is often done by hand where the sheaves are spread out on a threshing floor and struck with sticks or alternatively can be stepped on or thrown against a hard surface (FAO, 1994). This

produces about 15-40 kg of seed per hour (FAO, 1994). These procedures can leave a lot of impurities mixed in with the seed such as stones, dirt, chaff and pieces of other plants or insects (FAO, 1994).



Figure 3. Hand threshing of rice by hitting it against a board in Chitwan, Nepal (Developmental Idealism Studies, 2008)

Impurities lower the quality of the seed and can potentially lead to higher risk for being infested in storage (FAO, 1994). If the seed needs to be dried after harvest, cleaning the seed would also help to greatly lower drying costs as then it would only be the seed being dried instead of having to dry all the impurities as well (FAO, 1994). Using the ASC-3 seed cleaner could increase the quality of their seed by helping to separate out the broken or bad seed as well as the extra dirt and chaff (Agriculex Inc, 2011). It would save significant time and money as without a grain cleaner, they would have to be separated out by hand which could take significantly more time and would most likely not result in as clean of a product (FAO, 1994).

The ASC-3 seed cleaner could also be beneficial economically as it could provide a business opportunity for people. It could provide a service for almost all farmers in the surrounding area as it could clean rice, wheat and corn all of which are grown in Nepal. This could especially be a great opportunity for women trying to support themselves or a family. It

could also be beneficial to someone who doesn't own any land to make an income or a farmer looking for supplementary income. A possibility would also be for a farming community to purchase the seed cleaner as a group to make it more manageably priced for each person. It would probably not be economically viable for one farmer to purchase a seed cleaner for themselves as they grow crops, on average, on only 0.8 hectares of land (FAO, 2003).

### **Import/Export Documentation Required**

In order for products to be imported into Nepal, some documentation is required. Imports that are worth more than 100 US dollars require an Import License (UPS, 2014). Other required documents are as follows: a Nepal custom import declaration form, air way bill, certificate of origin, letter of authority, invoice, certificate of insurance, original CTD, certified copy of L/C, company registration certificate, income tax registration certificate, VAT registration certificate, packing list and BBN 4 form from the bank (SME Toolkit Nepal, 2014).

In order to export from Canada, documentation is required for items that are valued at over 2,000 Canadian dollars (Government of Canada, 2014). An export declaration must be made and the appropriate export code then must be obtained which can be found at the Canadian Export Classification (Government of Canada, 2014). The export must be reported at minimum two hours before exported items are loaded if traveling by air (Government of Canada, 2014). To submit the declaration, it must be done by Canadian Automated Export Declaration which is done electronically or by B13A Export Declaration where a paper copy of the declaration is presented (Government of Canada, 2014). In some cases, proof of export and certificated of origin may be required as well (Government of Canada, 2014).

## **Loan/Grant Programs**

As people in Nepal generally don't have large sums of money to spend on starting a business, some help may be needed. There are many grant programs offered by Canada, one of which being the Canada Fund for Local Initiatives (CFLI) (Government of Canada, 2013). It funds small projects in Nepal and assists their needs at the community level (Government of Canada, 2013). However, to be funded by the CFLI, the organization/business must be registered under the Social Welfare Council Act (Government of Canada, 2013). To qualify for this grant, the project should help to improve food security, increase and sustain economic growth, give security and sustainability and encourage gender equality (Government of Canada, 2013). The project must show a clear, achievable outcome (Government of Canada, 2013). Projects that will be given priority are those that support local governance and human rights, support the local economy and infrastructure, promote ways that address issues creatively or support gender equality, environment and social inclusion (Government of Canada, 2013). On average, CFLI contributes between 15,000 - 35,000 dollars which would be 824,628 – 1,924,134 rupees (Government of Canada, 2013). To get funded, a proposal must be submitted using an application supplied by CFLI (Government of Canada, 2013). Contact email for the CFLI Coordinator for Nepal is [canadafundnepalbhutan@gmail.com](mailto:canadafundnepalbhutan@gmail.com) (Government of Canada, 2013).

Another way for a person in Nepal to be able to afford a grain cleaner would be through microfinance (Plan Canada, 2014). This is an option that provides small loans and other financial services to those who have access to little or no capital (Plan Canada, 2014). It is a great way to help those in poverty break out of the cycle and be self sustaining financially and therefore have the ability to provide for themselves and their families (Plan Canada, 2014). Six benefits that can result from micro financing are access to loans, improved loan repayment rates,

extending education, increasing health, increasing sustainability and creating jobs (Plan Canada, 2014). Normally it's impossible to get a loan when one has little to no assets but micro finance allows access to this (Plan Canada, 2014). Families that are using a micro financing program are also far less likely to remove their children from school which will then increase the prospects for their children in the future (Plan Canada, 2014). It can also lead to higher sanitation and cleaner water as well as being able to afford health care (Plan Canada, 2014).

### **Regional and Global Competition**

Some competition exists in Canada as well as other countries in seed cleaner production. In Canada, another company also makes a small scale grain cleaner called the Mini Air Screen (Flaman Grain Cleaning, 2014). However, this cleaner is significantly more expensive and much larger making it much less portable (Flaman Grain Cleaning, 2014). Even though it's smaller, the Agriculex ASC-3 still cleans as much as the Flaman Mini Air Screen (Agriculex, 2011, Flaman Grain Cleaning, 2014). As far as competition in Canada, the ASC-3 from Agriculex seems to be the best option in terms of price, efficiency and size (Agriculex, 2011). Two seed cleaners in China are also similar to the ASC-3. These are both larger but still within the same price range as the one from Agriculex. The seed cleaner from Julite has an advantage in the cleaning capacity (Alibaba, 2014). The advantage to these two is that it would be a shorter distance to ship from but their increase in size could also potentially lead to higher shipping bills. Finally, a small, compact seed cleaner from Almaco may have the advantage over the ASC-3. It costs less money and is smaller however the cleaning capacity is unknown (Seedburo Equipment Company, 2014).

Product	Country	Company	Cost	Weight (Kg)	Dimensions (cm)	Cleaning Capacity (kg/min)
ASC-3 Seed Cleaner	Canada	Agriculex Inc.	\$4,326	41	66 x 40 x 77	1-20
Mini Air Screen	Canada	Flaman Grain Cleaning	\$14,000	263	107 x 84 x 93	13.6
Grain Seed Cleaner	China	SYNMEC	\$4,700	unknown	150 x 117 x 222	1.6
Small Type Grain and Seed Cleaner	China	Julite	\$1,000-\$4,000	650	170 x 140 x 180	50
Air Blast Seed Cleaner	US	Almaco	\$2,547	40	20 x 12 x 23	unknown

Table 1. Comparison of seed cleaners between different companies

## Discussion

Overall, the Agriculex ASC-3 seed cleaner could be beneficial to agriculture in Nepal. It will cut down on costs for farmers, increase their seed purity, provide business opportunities for a reliable source of income and of course, benefit Canada's economy. However, there are a few details that may stand in the way of making the seed cleaner a profitable solution. First, it requires electricity which many Nepalese may not have access to so this would make it cease to be an option for many people. The outlets in Nepal may also not be suited to the plug as it would be made for Canadian use so there would need to be an alternative such as including a converter of some sort but this adds an extra cost and is not a long term solution. However, if the seed cleaners do well and it becomes a business that Agriculex Inc. would want to be part of permanently, they could potentially begin to make seed cleaners suited to Nepalese outlets. An

even better solution would be to find a grain cleaner that is powered by hand using some sort manual power which would make it more accessible.

Another issue that could arise would be the price. Once the price of the machine plus the price of transportation and labour are factored into the overall price, this may become very expensive once a price is set that not only covers all of these costs, but also generates profit. It may seem like a daunting amount of money for those in Nepal to spend especially as a large portion of the country is below the poverty line. Introducing seed cleaners to farmers in Nepal could greatly improve agricultural production though a less costly machine that doesn't rely on electricity would improve the chances of success in this project.

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