

Nepal Agri-Food Exports Assignment

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## INTRODUCTION

In modern society, one is not always as fortunate to live in the circumstances that Canadians are in. Despite the average citizen requiring variety in order to ensure sufficient nutrients and vitamins, many individuals can only eat the foods grown in their domestic country in order to stay within their means. In order to ensure consumer demands are met with a constant supply of fresh produce for purchase at supermarkets, farmers, particularly in Canada, purchase the highest quality crop seeds within their limits. This is in order to increase the total amount of crop for yields in their farming operations (AGP seed systems, 2015). Research advancements in the agriculture sector have allowed businesses to revolve around the development of the highest quality plant seeds that produce the highest yield rates and are currently possible (AGP Seed Systems, 2015). The result of these businesses is growth in the Canadian economy and allowing farmers a wider variety of crop seeds to choose from.

Due to the aftermath of a devastating hurricane, Nepal farmers have lost a large quantity of their seed stocks that were stored for future planting seasons. To elaborate, an estimated 25.2% of Nepal Citizens live under the poverty line, therefore, the purchasing new seeds is potentially outside the income budget of many farmers, especially when it comes to purchasing organic inputs for planting season (SADP Nepal, 2015). With over 75% of Nepal citizens rely on agricultural aspects throughout their daily lives, removing this part of their economy is detrimental to both society and the individual (SADP Nepal, 2015). By taking advantage of the high quality seeds available in Canada and exporting to Nepal, there is potential to allow Nepal farmers an opportunity to acquire high quality seeds and improve their yield rates as bush cucumber species have higher yield rates than vine cucumber species. Crucially, this has the potential to come at a low cost for the Nepal government that they could potentially afford with

their small budget with (World Bank, 2015). Furthermore, the Canadian seed sector will benefit by creating new demand and job opportunities for Canadians. A cheap product easy to transport is ideal to export to Nepal in order to make sure the trade agreement is well within the government budget as to avoid any negative economic outcomes.

#### Part 1: Export Product description and requirements to grow

The product that I have selected to be exported to Nepal is Canadian cucumber seeds is referred to as “Bush Champion” cucumber breed, with the potential of fresh cucumbers also as an export. The Bush Champion leads in high yield rates when compared amongst other cucumber breeds (Halifax Seed, 2015). Online purchases seed business such a “Burpee” offer the mentioned product at \$14.95 Canadian dollars per package and each package contains 150 seeds (Burpee, 2015). Bush cucumber breeds take up one-third of the space that vine cucumber types requires (Burpee 2015). This is an ideal plant suited to grow in Nepal, as farmers have very limited farming land to produce on being from 0.94 to 0.55 hectares of land. (Food and Agriculture organization of the United Nations, 2015) Cucumbers are a worldwide grown fruit that is consumed for its high nutritional value, consisting of vitamin K, C, and molybdenum, and their quantity of stored high water that helps prevent dehydration. (The world’s healthiest foods, 2015).

Harvesting of cucumbers is believed to have been carried out in the Indian borders between 2-3 millennia BC. (Vegetable Facts, 2015). The Roman Empire was the first civilization to have used cucumbers for its nutritional and medical purposes in 14-16 AD, with over 40 remedies used by nobles and lower classes, (Vegetable Facts, 2015). Since then society has made amazing advancements in the agriculture section as to the growing conditions plants require in

order to flourish. Cucumbers require favourable soil conditions to ensure roots can grow to up to 0.3048 metres. (Nutrient Management for Cucurbits, ) soil requirements range from 65.7709–72.5748 kilograms of nitrogen, 20.4117 kilograms phosphate, and finally 72.5748 to 81.6466 kilograms of potassium per acre. (Nutrient Management for Cucurbits, 2007). The pH level of the soil should be between 6.0 and 6.5, as anything outside of this range might decrease total yield quantity or kill the plant entirely (Nutrient Management for Cucurbits, 2007).

Micronutrients found in the soil can potentially affect the overall growth and health of cucumbers depending on if there are inefficient amounts (Nutrient Management for Cucurbits, 2007). Out of all the micronutrients, cucumbers respond the strongest when there are low Magnesium levels in the soil compared to if there were low nitrogen or phosphorous levels. (Nutrient Management for Cucurbits, 2007)

The vast majorities of farming land in Nepal is under fertilized, leading to the build up of the 2015 earthquake, has made for a food security crisis throughout the country (IRIN, 2015). Nepal does not have any producers inside it's borders that sell or produce chemical fertilizer, instead the Nepal government heavily relies on trade agreements with India to supply fertilizer so the product can be sold to farmers at a subsidized price. (IRIN, 2015) The government of Nepal has slowly decreased the portion of budget that is spent on importing and managing fertilizer has decreased from a quarter to only 2.5% of the total budget spent in 2015. (IRIN, 2015)

Nepal consists has over 81.3% of citizens partaking in the religious practices of Hinduism (The World Fact book, 2015). People that practice Hinduism tend to lean towards being strict vegetarians (FAQs, 2015). The benefit of exporting fruit seeds to Nepal is that the product is not

of a disrespectful nature to the dominate culture being that of Hinduism in Nepal as it most likely does not have the effect to religiously offend citizens.

The native cucumber species in Nepal is referred to as bhadaure kankro or “kannkro” and is commonly used for medical and nutritional purposes. (Taste of Nepal, 2014) There are over 200 species of vegetables that can be found in Nepal, cucumbers are one of the many plants dominantly grown in hills regions where there is the highest level of plant diversity (PGR in Nepal, 2015). Consumption of cucumber species has been part of Nepal’s culture in the aspect that is has been grown in the wild since 1841 (Taste of Nepal, 2014) yet the native species of cucumbers are vine species, as it differs from the proposed product if to be to exported would be of a bush variety. the bush cucumber species still meets most cultural conditions for the majority of Nepal citizens in order for it to be demanded by consumers. Nepal was recently struck by a massive earthquake, according to the UN Food and Agriculture Organization, an estimated 60% of food and seed stocks belonging to households were lost in the major six districts affected by the earthquake. By providing high quality seeds from Canada to Nepal, the potentially exported product will help increase the supply of seeds that Nepal farmers are in desperate need of for future planting seasons. (Bioversity International, 2015)

The national average farm size in Nepal is approximately 0.94 hectares, with the average small farm size being 0.55 hectares. (Food and Agriculture organization of the United Nations, 2015), While Canadian Farms have over 173.25% more fertile land to select and manage what diverse crops to grow than in Nepal where Farmers in face the difficult problem of carefully selecting plant species that do not take up a vast amount of space which allows for maximize yield rates on their farm land. Supplying Nepal farmers with bush type cucumber seeds that

requires less space and produces higher yields than other cucumber species allows them more space to use.

## PART 2: Benefits to Canada from potential export

The seed industry is a critical sector in the Canadian agriculture value chain. (Stats Canada, 2015) Revenue from the seed production sector amounted to an estimated \$2.15 billion in farm cash receipts for the Canadian economy, only being surpassed by wheat and canola in 2011. (Stats Canada, 2015). Studies around the indirect and direct means that the seed sector effects the Canadian economy, resulted in the calculation that it is around \$5.61 billion Canadian dollars. (Stats Canada, 2015) Some factors include in the calculations were the seed sector maintains 57,420 jobs and generated an estimated \$1.67 billion in wages and salaries. (Stats Canada, 2015) The export of Canadian seeds have increased since 2010 by 220 million in the year 2013 almost to the point that it surpassed imports, resulting in an estimated \$3 million trade deficit. classifying the Canadian seed sector as an overall balanced market between exports and imports economically. (Stats Canada, 2015) in 2011, the private sector contributed \$110 million into investments for research developments, while investments in seed research is also being carried out by all levels of government and being a subject to study at the university level. (Stats Canada, 2015) The prediction is that by 2017, the private sector shall invest another \$7 million into the technology and research carried out in the Canadian seed private sector (Stats Canada, 2015). This indicates an increasing interest and overall investment from private firms who do business through the seed sector. By providing a new export source in the form of bush cucumber seeds, it will increase the already significant demand from the international seed markets and boost the canadian economy further (Stats Canada, 2014). In 2008, the Canadian seed market

underwent change as the exports began to focus on developing countries rather than already developed countries. As a developing country, it would benefit Nepal and Canada if potential trade agreements were formed export plant seeds as imports and exports. any potential trade agreements that can help strengthen the relationship with another country would be beneficial for Nepal.

### PART 3: Benefit to Nepal from importing the Canadian Product

In Nepal, the targeted consumer group is for all citizens who have farming land. potentially providing cucumber seeds for purchase to the Nepal government to be sold at a low price to citizens, it shall greatly benefit families living under the poverty line that could not afford seeds previously with their income budget and lost seed stock from the earthquake, since the income budget for Nepal citizens. that have small gardens living and wish to grow cucumbers, cheap and healthy Canadian cucumber seeds would be made available for purchase via Nepal seed companies such as from Nepal seeds, that helps (Nepal Seeds, 2015). The storage method only requires a dry location to store the seeds up to recommended only 10 years. (The Real Seed Catalogue, 2015), which allows Nepal farmers the option of buying in bulk and store leftover seeds for years.

### COMPARISON TO OTHER COMPETITIVE PRODUCERS

China has a total landmass of 9,600,00 sq km, and is located directly beside Nepal with a very rich agricultural region (China.Org.Cn, 2015). India produced an estimated \$3.25 billion U.S dollars in 2013, with China producing an estimated \$767.88 million U.S dollars in the same

year. (Statista, 2013) Nepal is ranked 10<sup>th</sup> in the global economy for producing fruits with an estimated \$327.65 million U.S dollars. (Statista, 2013). However, Canada in 2011 only made up for \$753 million U.S dollars in fresh fruit production. (Fruit and Vegetable Production, 2012). With India and China being located on either side of Nepal, it would be more beneficial to import fresh cucumbers from the previously mentioned countries that produce higher quantities of fresh cucumbers. even though Canada can produce cucumbers at a lower cost than Nepal, There are countries that can produce cucumber at an even lower price than Canada, making it economically unbeneficial for Nepal to purchase whole cucumbers from Canada. However since Canada is a leading country in high quality seeds, they have an advantage as cucumber seed exporters over other countries. (Stats Canada, 2015) The benefit would be lower transport costs, and lower prices resulting from a larger supply source. Out of the 71.37 million cucumbers produced in 2014, china accounts for over 73.4% of production (Fresh Plaza, 2014)while Canada is not ranked in the topic 20 producers worldwide. (Stats Canada, 2015) Canadian producers of cucumbers cannot compete with the larger cucumber producing businesses in China. However, even though Canada does not lead or dominate in the world production of fresh cucumbers. Canada is a leading force in high quality seeds, making it more efficient for Canada to export Cucumber seeds to Nepal, (Stats Canada, 2015)

## SUBSISTENCE FARMING IN NEPAL

Nepal has three agricultural zones: Terai, Mountains, and Hills (Grassland and Pasture Crops 1999). The hill region has a differential of elevation ranging from 300 to 2000 meters, with a noticeable amount of rain being from 1000 to 28000 mm (Grassland and Pasture Crops,



1999). Nepal experiences most of its cucumber farming in the hill region, resulting from that climate conditions to grow cucumbers being ideal. (Grassland and Pasture Crops 1999)The hill region is estimated to hold 40% of all land that is ideal for carrying out agricultural operations. (MIMAP-Nepal, 1995) After harvest, cucumbers can be stored in multiple forms to acquire long time periods. These methods being pickling, powder, or left in dry areas till further desire for consumption is desired. All methods are met through low equipment costs, such as the jars and vinegar required to pickle, or the dehydration method used to turn cucumbers into a powder substance ( ). However, once cucumbers have been turned into a powder form or pickled, there is a massive global market to enter into. (Alibaba, 2015) Businesses like the North Bay Trading Co offer consumers freeze dried organic collard green cucumber powder priced at \$84 Canadian dollars for only 2 lbs. (North Bay Trading Co, 2015). While pickled cucumbers can be purchase from Vietnam for \$4.5 to almost \$5 in United States currency. (Alibaba, 2015) This is high above the price that is set for fresh cucumbers such as in Vermont, where the average cucumber price is set at \$0.75. (Vermont Farmer's markets and Grocery Stores, 2010)

When dealing with global trade agreements between countries, it is important to note products that tariffs attached to them and at what costs do they come at have importing cucumber seeds to Nepal has a tariff of 10% (Investopedia, 2015). Labeled under the subsection of 1209.91.00 and referred to as Vegetable seeds, there is a general duty of 10% (Harmonized System 2012 Version). Therefore, when analyzing based on the example prices expressed earlier in the paper mentioning the price of \$14.95 for a package of 150 cucumber seeds, adding the cost of the tariff it would be \$1.495 making the cost of purchase and the tariff come to 16.45 Canadian dollars per package.

Since 1941 fruit and vegetable farm numbers have been on the decline in Canada, this had made for most of the fruit and vegetable producers that have thrived to acquire the farming land that was previously owned from failed farms. (Stats Canada, 2015) The production of Canadian cucumbers in 2011 was 2,339 hectares, only up 1,156 hectares since 1941. However, the quantity of production per hectare has increased to 18,370 kilograms in 2011, from 1941's census being quantity of production per hectare at 6,752 (Stats Canada, 2015). However, the Canadian seed sector exports to over 110 countries and consists of an estimated 154 seed companies are members of the Canadian Seed Trade Association, this organization is being supplied by an estimated 4,500 high quality pedigreed seed producers. (Stats Canada, 2015)

Locating a specific company to export seeds has been difficult as many companies have not responded to my emails. The three cost factors I researched were, cost to purchase in seeds in Canada, Cost of transportation, and additional percentage of cost added on by tariffs. After finding results for purchase price in Canada, and percentage of cost added on by tariffs, It calculated out to \$16.45 for a package of 150 seeds. Yet without acquiring return emails from contacted seed companies, there is not enough information to acquire an estimated total cost on the transportation from Canada to India, and from there to Nepal. With two out of the three costs confirmed, it is not enough to confirm that the overall cost of the export would be classified as a "low cost". However, there is potentially enough to foreshadow that there is a strong possibility that the total cost of the trade agreement would be low and affordable for Nepal citizens.

## CONCLUSION AND RECOMMENDATIONS

After carrying out and exploring information based around the export idea of Canadian cucumber seeds and cucumbers to Nepal. I can conclude that there would be no economic benefit from exporting fresh Canadian cucumbers to Nepal. to explain, Canada is not a big enough player in the global fresh cucumber production to reach an equilibrium price that is lower than what large competitors like India and China are pricing fresh cucumbers at for global purchase. The possibility of exporting Canadian seeds however would benefit the citizens of Nepal by saving farmers the effort of harvesting and selecting their own seeds to plant for future seasons, while insuring that high quality cucumber seeds are being planted to restore stock and help ease damage done by the recent earthquake. The proposed export plan has the potential to increase the economic impact that the seed marketing sector has on the Canadian economy. While insuring a potential

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