

AGR1110

Canadian Exports Final Essay

Terisa Set



Introduction

Somewhere located in southern Asia landlocked between India and China is the Federal Democratic Republic of Nepal (Worldatlas, 2015). It is currently ranked 45th as the most populous country with approximately 28 million people (unicef, 2015). Nepal is home to eight of the ten highest mountains in the world including Mount Everest thus creating three physiological regions that is comprised of the terai, the hills and the mountains (Worldatlas, 2015). According to the World Bank, approximately 28.7% of land area is agricultural land which is land devoted to agriculture for permanent crops and pastures (WorldBank, 2015). Agriculturally, the mountain region is predominately made up of livestock production with herds such as yaks, chauries, cattle, sheep, goats and horses (Pariyar, Nepal, 2012). The hills region is suitable for both livestock and crops (Pariyar, 2012). The major crops produced include rice, pulses, vegetables, potatoes, wheat, maize and millet (Pariyar, 2012). An estimate crop yield loss from pests and diseases is approximately 35% and to decrease the percentage farmers relied on synthetic pesticides, which can cause negative environmental impact if misused (Kafle, 2014). The terai is more suitable for crops because of its lack of hilly regions (Pariyar, 2012). The role of farming plays an integral part for the country's economy because it is accountable for 70% of the employment opportunities and 37% gross domestic product (GDP) (Bhawan, 2012). Agriculture in Nepal has been relying on subsistence farmers and two earthquakes that occurred earlier this year had a huge negative impact especially for the Nepalese farmers (Bhawan, 2012). These drastic events made farmers lose their homes, damaged equipment and land and cause major loss of livestock and crops therefore food security is scarce. Since then, many global organizations sent urgent help to Nepal

including USC Canada and Food and Agriculture Organization of the United Nations (FAO) (USC, 2015). Prior to the earthquakes, there was a pest outbreak of Brown Plant hoppers in 1997 (Kafle, 2014). Nepal joined the FAO's community Integrated Pest Management (IPM) program in Asia that is organized by Plant Protection Directorate (PPD) and Farmer Field's school (FFS) to assist with crop loss by pest damage and teach farmers' basic agro-ecology and crop management skills (Kafle, 2014). IPMs are a series of management tools to sustainably manage pesticide use and reduce pest population (Bhawan, 2012). Since spreading the implementation of IPM practicing farmers have been thriving in yield, annual income and reduced pesticide application by 36% (Kafle, 2014). FFS is vital in 87 countries and is an exceptional advanced technology (Kafle, 2014).

Part 1

Product description

In regards to IPM, yellow sticky traps are integral because they are used to monitor the population of pests before major damage to crops (Bethke, 2009). It also allows you to identify the species, density of population, establish a threshold and plan techniques to suppress pests. The purpose of this technology is to attract and capture any flying pests such as aphids, flies, thrips, gnats, beetles and other insects (Pundt, 2013). They can be applicable in the fields, greenhouses, gardens and other areas where insects are harmful to plants by simply staking or hanging the glued sheets in the zone of the plants (Pundt, 2013). Typically, the colour of the trap is yellow or blue and is coated with non-poisonous glue to attract pests with distinct aromatics that are appealing to insects (Golden Harvest Organics, 2015). Although this technology is highly useful it captures

anything that makes contact with it so that includes bees and other beneficial insects (Golden Harvest Organics, 2015). The picture below displays an example of yellow sticky cards that is in use to control an indoor plant.



Origination of product

There are some existing distributors and manufactures that produce this technology globally including Canada. Specifically, a Canadian company called Natural Insect Control (NIC) based in Stevensville, ON is a company that supplies organic and environmentally friendly products to control pests (Natural Insect Control, 2015). It has distributors across Canada (Natural Insect Control, 2015). NIC specializes in beneficial insects and biological pests such as ladybugs, preying mantis, beneficial nematodes, fly parasite and more (Natural Insect Control, 2015). All of the beneficial insects they supply is native to North America or approved by Agriculture Canada. They also supply organic solutions, natural fertilizers and soil supplements (Natural Insect Control, 2015). NIC Company believes that using an alternative to chemicals will make a low environmental impact and make a future possible (Natural Insect Control, 2015).

Machinery required and cost

As far as machinery involved, there is no requirement besides producing the product. All of the labour can be done manually (Golden Harvest Organics, 2015). NIC Company sells yellow sticky cards for 10 touchable 4 x 9.5 inch yellow trap cards for \$14 or 100 touchable cards for \$104 (Natural Insect Control, 2015). They also sell a similar product called yellow sticky trap tape that is dispensed in a 530ft. x 2 inch roll that sells for less than \$100 (Natural Insect Control, 2015). All of the touchable cards come in dry-touch adhesive thus there is no initial coat of adhesive. Furthermore, some additional costs may be required such as paintbrushes, stakes and adhesive (Natural Insect Control, 2015). To decrease additional costs farmers can utilize their creative skills and find ways to replace stakes with existing bamboo sticks (Bethke, 2009). Specific adhesives do not need to be necessary because it can be substituted with cream or cheap glue. The traps are disposable or it can be reused simply by applying hot water and scraping the cards off with a knife then recoated with non-toxic adhesive to replace the older sheets (Natural Insect Control, 2015).

Labour require

For this product, minimum labour is required to set up the traps. It is less intensive because the traps need to be left alone for the insects to come it. The most intensive part of this product is if the farmer chooses to renew the sheets then they would need to spend more hours to clean the sheets and repeat as opposed to disposing it and purchasing brand new ones.

Market opportunity

The main market opportunity for Canadian exporters would be aiming at Nepalese farmers that practice integrated pest management in the regions where is suitable for growing crops which would be the hills and the terai region. The secondary market opportunity would be for local residents in the city that have small gardens with pest problems.

Benefits to Canada

By exporting to Nepal some benefits include promoting bilateral trade with other countries that have subsistence farmers. If there is an increase in demand then that will lead to an expansion of small businesses which will need more workers.

Part 2

Transportation Logistics

In order for the traps to be transported to Nepal it first has to be shipped from Stevensville, ON or a distributor to a major courier, which will most likely be in Toronto, ON. The best method of transportation would be by air cargo to Kathmandu then shipped out to distributors by road. After doing calculations on A1 freight forwarding from Toronto to Kathmandu the costs would be approximately \$1000. This includes 10 boxes that is 60cm x 47cm x 50cm with approximately 720 packages of yellow sticky traps in one box.

Storage

The storage for sticky traps is simple. It should be kept in a cool dry place away from water, food or feed to prevent contamination and dust buildup. Also, it should be opened

only when it is needed. Yellow sticky traps have no expiration therefore it can be stored for as long as the farmer needs to use it.

Cost analysis to reach profit

For every \$1 CAD it equals to 49.72 rupees. From the transportation calculations, if there were a total of 7200 units and all of them were sold at \$16 CAD (759 rupees) then the total sales would equal to \$115200 CAD. In order to breakeven, 500 units have to be sold which will reach profit with sales after that.

Needs/benefits to importing nation

Some benefits the importing nation will experience are reducing the risk of pest outbreak by improving IPM program that will lead to increase in crop yield and promoting the bilateral trade between Canada and Nepal.

Environmental benefits

Some benefits that come with IPMs are increase in crop yield, reduce pest population and most importantly reduce pesticide application (Kafle, 2014). By abusing and misusing the amount of application sprayed will cause problems such as pest resistance, increase of insect population and residue of toxic chemicals in crops, water, air and ecosystem (Kafle, 2014). IPM programs are developed to inform the farmer an idea of how much pesticide to use (Bhawan, 2012). Generally, most uneducated farmers will apply non-specific amount without knowing the consequences. The implementation of IPM will practice appropriate pesticide use.

Canadian companies

As mentioned before, a Canadian company called Natural Insect Control from the Niagara region would be an ideal supplier because they exclude toxic pesticides and

focus on improving the environment. NIC can be contacted via email:

info@nicniagara.com. They hire specialists like Stacey Hickman who is an entomologist at the company (Natural Insect Control, 2015).

Marketing strategy to sell in Nepal

Since this product can be used not just on farms but it can be applicable to small gardens, greenhouses and homes. It would make sense to distribute it in local stores and directly to individual farmers. Having distributors would make it easier for city customers to purchase. This product can be marketed through flyers and at agriculture government agencies.

Trade/Subsidy barriers

A common barrier for trade is tariffs. Tariffs raise the price of imported goods so the locally produced product will have an advantage (WTO, 2015).

Evaluate regional and global competition

There are many competitors in mainly in China and India that have this technology. On alibaba.com a main supplier from Shanghai supplies yellow sticky traps for \$0.13US/sheet with similar qualities. Another big supplier on alibaba.com from Gujarat, India also sells yellow sticky traps with similar qualities for an unknown price.

Conclusion

Generally, all farmers are accountable for their actions towards their business and they need to know certain information that will affect their farm and their future.

Implementing integrated pest management on farms has inevitable benefits to farmers and consumers. To pursue an IPM yellow sticky traps are an efficient way to monitor and identify insects therefore will allow farmers to know what and how much to spray. The

labour required and low initial costs can encourage farmers to purchase yellow sticky traps. This will promote trade with both countries thus more companies will seek to get involved. With the rising competitors closer in proximity it will make the Canadian companies marketing strategy a challenge. After analyzing the costs, benefits and competitors Nepalese farmers and customers are in a better position to purchase yellow sticky traps from regional businesses because Canadian imports will take away existing small businesses, which will affect their gross domestic product.

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