

Analysis of Exporting A Portable Greenhouse Product to Nepal

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Nepal is a country located in South Asia, between India and China (Naturally Nepal, 2015). It has a population of approximately 26.62 million people and is 147 181 square Km in size (Naturally Nepal, 2015). The main industry in Nepal is agriculture employing 80% of the population (Nations Encyclopedia, 2015). The staple crop grown in Nepal is rice, which is the most consumed food product by the Nepali's. Other crops that are grown by the farmers are wheat, maize, barley, etc. (Manisha UK, 2015). All of these crops are cereal grains, which means they lack a significant source of vitamin A and some of the essential amino acids. These micronutrients can be found in many vegetables such as spinach, tomatoes, asparagus, berries, and mushrooms (HealthAliciousNess, 2015). In much of Nepal it is the women and children who lack these micronutrients which causes many problems such as stunting of growth, low birth weight in babies and anemia (Nepal Demographic and Health Survey, 2014). A way to solve these health problems is to consume more vegetables, which are rich in vitamins and minerals. To be able to produce these vegetables land is needed but the 56% of the land suitable for crops (Shrestha, 2015) is already maxed out and in use for the more required food sources or the cereal crops. To be able to produce vegetables the Nepali people need a place to grow these vegetables while not taking away land. A solution would be the the GrowIT Round Raised Bed Greenhouse (RRBG), a product made by Shelter Logic Canada located in Brampton Ontario (Shelter Logic Canada, 2015). The Round raised bed greenhouse is a rib frame 4ft by 4ft by 2ft made out of steel. The steel frame is coated in DuPont Premium Powder coat finish, which resists chipping and corrosion of the steel. The frame is covered in a translucent polyethylene cover made up of two side panels and a retractable top cover (Shelter Logic Canada, 2015). This frame attaches to any base

structure of the same length and width and height of more than 4 inches. Since the Round raised bed greenhouse is just a cover structure the base portion of the greenhouse is not included in the package. This means the Nepali's could create their own base structure to support the shelter if they wished to create a more permanent structure. A base can be made out of any material that will hold dirt and could just be a frame that sits on the ground. The other option would be to purchase a premade tray or base. A company in St. Albert, Alberta manufactures a heavy-duty polyethylene containment basin, which is the same length, by width by a height of 1.5 ft as the Round raised bed greenhouse. This basin would be the best fit for using as the base of the Round raised bed greenhouse, due to its chemical, rust, ultraviolet light and cold weather stress resistance (Zeebest Plastics, 2015). Zeebest Plastics is a company that manufactures oil spill trays and basins that are used for the storage of petroleum products and are a safeguard to the environment (Zeebest Plastics, 2015). The Round raised bed greenhouse would be a good product for the farmers of Nepal because the majority of farmers are subsistence farmers. Subsistence farming is when the farmer produces enough crops to feed themselves and their families (Nations Encyclopedia, 2015). This type of farming practice allows for individual families to support their own food needs but does not leave any leftover crop or very little leftover crop for selling to others. Such as selling to the people who live in the cities and towns who do not have the land space to produce crops and thus must buy from those who do produce crops. With the Round raised bed greenhouse every family will be able to produce their own vegetables or crops as a source of food to feed them-selves. The Round raised bed greenhouse could also be used to produce flowers that can then be sold much like having a floral business thus creating extra revenue. Another business

opportunity would be to purchase several Round raised bed greenhouse units and start ones own vegetable farm or market. By being able to produce large quantities of quality vegetables in a small area. The Round raised bed greenhouses being small and portable makes it easy to place anywhere whether that is on a porch, outside the front door, or even on the roof. The portable round raised bed greenhouse is a convenient product that can withstand the colder temperatures of the mountainous region in Nepal. As well it is protective against insects and pests because it is a closed structure but is easily accessible for the producer to roll back the top to harvest or water the crop. The round raised bed greenhouse is an environmentally friendly product as is can be used multiple times and is a sturdy product that is meant for long-term use. The product is also able to support multiple plant growth. Due to its functionality and easy transportation the round raised bed greenhouse can be used in the more remote mountainous regions where there is a higher percentage of food deficit areas (Nations Encyclopedia, 2015). Exporting this product to the mountain regions could be more of a niche market then exporting to the mid region and Terai region as the two lower regions have easier access routes to the larger cities thus if one needed to they could go and buy product. The mountain region is harder to access due to the rough terrain but with the round raised bed greenhouse one would not need to travel to obtain vegetables needed as a significant vitamin source but could grow the vegetables for their own use.

For the Grow it round raised bed greenhouse product to be used in Nepal it needs to be manufactured and exported. Both the tray and shelter part of the product is manufactured in Canada. The Grow It shelter is manufactured in Brampton Ontario by Shelter Logic Canada and costs \$66.99 Canadian (Shelter Logic Canada, 2015), which is

approximately 5 342 Napalese Rupees based on one Canadian dollar being approximately 79.74 Rupee's (The Money Convertor, 2015). The tray manufactured by Zeebest Plastics in St. Albert, Alberta costs \$166.00 per unit (Zeebest Plastics, 2015), which approximates to 13 237 napalese rupee's (The Money Convertor, 2015). The total cost of a package would then be \$233.00 Canadian and 18 579 napalese rupee's. For a developing country such as Nepal where the average Nepal farmer makes around 1 490 rupee's approximately \$18 Canadian (IFAD, N.D) a month this product is not easily afforded by one individual. This product is a product that one would invest in, as its return is not immediate profit wise. However one or two units can be purchased by a community and used collectively to produce vegetables for the whole community. Thus it is less expensive for an individual. Another way to decrease the expense of a unit is to only buy the shelter portion of the package and then use materials such as scrap wood or clay to create a base to attach to the shelter. This makes the product less portable but more affordable per unit. The community can then build up the number of units they buy thus being able to produce more produce.

To ship the Grow it round raised bed greenhouse to Nepal there are several steps involved. The polyethylene plastic trays are manufactured at Zeebest Plastics as they are a fully functional manufacturing plant able to create many different products(Zeebest Plastics, 2015). The shelters made of polyethylene plastic are made by the Shelter Logic manufacturing plant in Watertown, Connecticut, United States of America (Shelter Logic, 2015). The first stage of transportation is transporting the Grow it round raised bed greenhouse from Connecticut, United States of America to a warehouse in Toronto, Ontario, Canada. The trays are to be shipped by truck to the same warehouse in Toronto

from St. Albert, Alberta, Canada. Both products are then packaged together in skids of 50 of each product to be shipped from Toronto International Airport to Kathmandu Nepal by cargo plane. This type of transportation is most efficient and the quickest way to ship a product to Nepal. The other option for shipping the product is to have a warehouse located in Nepal. The trays would then be shipped from Alberta to Nepal and the shelter would be shipped from Connecticut to Nepal directly. The warehouse in Nepal would then distribute the product parts together to local agricultural supply stores or any store willing to sell the product as this product is intended to be used by everyone or anyone who wishes to be able to grow their own vegetables. The cost of shipping 100 units by cargo plane is approximately \$1,772.00 Canadian (A1 Freight Forwarding, 2015) from Toronto, Ontario, Canada. The cost of shipping 100 trays by cargo plane to Nepal is approximately \$1,042.00 Canadian (A1 Freight Forwarding, 2015) from Calgary, Alberta, Canada and it costs approximately \$951.00 to ship 100 shelters from Shelter Logic in Watertown, Connecticut, United States of America to Kathmandu, Nepal (A1 Freight Forwarding, 2015). This is about the same cost as shipping from Toronto, Canada but would be cheaper overall because of reduced trucking costs, which is approximately \$2000 to ship from each plant to Toronto (Transport Canada, 2006). Once in the agricultural stores such as the Himalayan Agrovate Company the distributor can then sell the product either by sales directly from the store or doing door-to-door sales. The door-to-door sales would be more beneficial when selling to those in the mountain region of Nepal.

The Grow it round raised bed greenhouse is a beneficial product for Nepali citizens, as it will help to improve the countries health, and is good for growing

vegetables year round even in the colder temperatures. Once using this product for a few years the food deficit and economy of Nepal will improve. As well the Grow it round raised bed greenhouse can be used in parallel with the biodiversity seed kits that are already promoted by SAK Nepal (SAK Nepal, 2015) as it is a kit of different vegetable seeds high in the micronutrients that many Nepali women and children are missing. This is also a product that would be beneficial if another earthquake were to hit Nepal as it can grow better quality vegetables in a protected area that could support a family until crops were replanted and grown.

The Grow it round raised bed greenhouse is a product that comes from a very competitive market. There are many similar cheaper products in the market, but the other products are not as durable as the Grow it round raised bed greenhouse.

Al's Flower Pouch manufactured by A.M.A Plastics is one of the products in the market that could compete with the Grow it round raised bed greenhouse. Al's Flower Pouch is a plastic pouch that can be filled with dirt to grow plants. There are different sized pouches that can be purchased. The two main sizes are a 54cm x 21.6cm pouch that supports 5 or 10 holes for growing plants. It is essentially a sturdy pouch that hangs up anywhere the consumer can hang it. The pouch is coated with a UV protection to keep it from becoming brittle by the sun through out the growing season (A.M.A, 2013). The pouch is durable for a season but becomes non-reusable and is not very environmentally friendly as they are made of plastic which should be recycled and not thrown away or put in a dump. Al's flower pouch also can be bought pre-filled. The pre-filled Al's Flower Pouch would be a more efficient product for the Nepali farmers and consumers as the low quality soil in Nepal is one of the issues trying to be solved (SAK Nepal, 2015). Since the

pouch can be custom filled with any pre-made soil mix manufactured by A.M.A the AGRO MIX G5 would be the best choice as it is a mix created to generally meet the needs of any growing plant (A.M.A, 2013).

When shipping Al's pre-filled pouches in a bulk order of 500 units, each individual unit costs only \$2.50 Canadian (A.M.A, 2015), which is about 200 Nepalese rupees (The Money Converter, 2015). Making Al's pre-filled pouches 98.9% cheaper than the Grow It round raised bed greenhouse. Also with the product being smaller and weighing less it would only cost approximately \$506.00 to ship this Canadian made product from Toronto, Canada to Kathmandu, Nepal (A1 Freight Forwarding, 2015). This product is made in Kingsville, Ontario, Canada by A.M.A Plastics Ltd. (A.M.A, 2013). Since the product is made close to Toronto the best and most economical way to ship the pouches would be by cargo plane. To cover the cost of shipping the Grow It round raised bed greenhouse at least 8 units must be sold which means it is easier to start making a profit off of the Grow It round raised bed greenhouses but only if the people of Nepal are looking to invest that amount of money. Whereas with the pouches approximately 200 units must be sold to cover the cost of shipping, but because of the cheaper purchase cost it is more likely that the people of Nepal will purchase the pouch over the Grow It round raised bed greenhouse.

Al's pre-filled pouches seemed to be proven above as a better more superior product to the Grow It round raised bed greenhouse except on one plane. This plane would be its ability to withstand the colder temperatures. Al's pre-filled pouch is not a product that is meant to be used outside of a normal growing season (A.M.A, 2013) with

temperatures ranging in spring and summer months, and thus would not be useful in the colder mountain regions. Where as the Grow It round raised bed greenhouse has the colder weather resistance because of the product being made of polyethylene plastic (Zeebest Plastics, 2015). If looking for a long term, cold sustaining product that is still portable the Grow It round raised bed greenhouse is a good choice as it is an investment for both present and future use. If looking at a cheap, easy to use, short term, seasonal product Al's Flower pouch is the better product, as it too is portable and can be hung in a doorway, on a porch or on a fence. Both products would be beneficial to Nepal as both products would be able to help the people of Nepal grow quality vegetables. One option would be to ship both products either as a set or as individual products. The soil that can be sent in bulk along with the non-filled pouches can be used as the soil mixture for the Grow It round raised bed greenhouses. This creates more opportunities for better vegetable growth in Nepal and more exportation opportunities for Canada.

There are many benefits to shipping the Grow It round raised bed greenhouse from Canada as an agricultural export to Nepal. The first benefit of exporting the Grow It round raised bed greenhouse as a product is the increased production of the trays at Zeebest Plastics and of the shelters at Shelter Logic. The second benefit would be in the transportation industry and packaging products industry as the products need to be well packed to survive the long journey of first being in a truck and then flying in a plane. A third benefit could include the farms that produce seeds that can be packaged with the Grow It round raised bed greenhouse as a starter mix of seeds for the Nepali consumer. Another benefit would be in the construction and manufacturing industries if the profits

and production of the product increases greatly new factories will have to be built to help support the expansion of the companies. This in turn creates many new jobs for Canadians. The jobs created can range from truck drivers; to soil scientists creating new soil mixes, to factory workers building the product and businessmen selling the product. Many of Canada's sectors would be affected when exporting a new product to a country. If Al's Flower Pouches were to be exported another benefit to Canada would be the use of recycling plants, because Nepal may not be as equipped to handle a fully operating recycling process the pouches can be shipped back to Canada where they can then be recycled properly. This also would create another business in Nepal as there would need to be several drop off centers where the Nepali people could return the used pouch and then be given a small return for recycling their used pouches such as 10% of the sale price back.

In Alberta Canada there is the Alberta Bottle Depot Association, which is an association that manages 218-bottle depot drop off centers around the province. These centers have become a quick stop in making the planet more eco friendly. The center takes plastic bottles, glass bottles and aluminum cans to be recycled and the consumer receives a small sum for recycling old bottles (Depot, 2010). This type of system could expand across Canada and be put into effect in Nepal as an added industry to both countries that is environmentally friendly.

In conclusion the Grow It round raised bed greenhouse is a great product that is both highly functional for growing multiple vegetables and is a more environmentally friendly product. It would be more of a niche market product, on the selling point that it

has the durability in colder temperatures to still produce and it being a longer lasting product. The only disadvantage to the Grow It round raised bed greenhouse is the cost of the product being out of the expense range that Nepal citizens can afford as of today. In future research a cheaper but still have the same quality type of product could be found to fit the Nepali process better. Where as AI's Flower Pouch could be a short-term solution that could be sent over to Nepal now as a way to help decrease the food deficit. In future research the environmental aspect and composition of the pouch could be improved so that the consumer can use it more then once.

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Grow It Round Raised Bed Greenhouse



Al's Pre-filled Flower Pouch

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