

## Vacuum Sealer Equipment: Saving Nepalese Seeds Final Report

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## **Part 1 - Product Information**

A potential product that might be considered for exportation by Canada to Nepalese agriculture workers is vacuum sealers, particularly the product called the “Pump-N-Seal.” Vacuum sealers pull air out from a container, while simultaneously not allowing any additional air to enter in (Boatman Marking 2014). Developed by Pioneering Concepts Incorporated, an American company, 4 vacuum food sealer Patents on the Pump-N-Seal are now owned by the corporation (Raw Nutrition 2014). The Pump-N-Seal is currently being produced by Pioneering Concepts Inc. in Wapiti Wyoming (Raw Nutrition 2014). Pioneering Concepts Inc. has been in the business since 1988 and continues to search for areas of improvement in the Pump-N-Seal design, with the goal of creating an ultimate vacuum sealer (Raw Nutrition 2014). Although Pioneering Concepts Inc. is an American company, the Canadian company “Raw Nutrition,” is offering a “Pump-N-Seal Food Sealer Starter Kit.”

The kits offered by Raw Nutrition provide all the essentials to using the Pump-N-Seal and this company can be reached at the phone number 1-888-649-8025. The essentials in the kit include a pump, bag attachment, hole punch pin, foam block, instruction sheet and 250 Tab-Cheks. These kits are currently being sold for \$59.99 Canadian, or 5,259.19 Nepalese Rupee (Canadian Dollar 2014). However, the kit may be expensive or unaffordable for some Nepalese citizens. In Nepal, the average monthly disposable salary after tax is 14,800.00 Nepalese Rupee, meaning the purchasing one of these kits by a family would require up to a third of their disposable salary. (Numbeo 2014). However, when compared to other vacuum sealers on the market, the Pump-N-Seal’s true value appears. Other sealers range in price from \$30 to over

\$150 Canadian Dollars (2,655.46 to 13,277.32 Nepalese Rupee) (Amazon 2014). There are also additional costs for proper sealer specific packages that are non-reusable, that can cost up to \$25 Canadian Dollars (2,212.89 Nepalese Rupee) (Amazon 2014). Although the Pump-N-Seal may be difficult for an average to low income family to own, the positives of the Pump-N-Seal far out weigh the negatives.

The Pump-N-Seal is a one of a kind vacuum sealer with an impressive array of positive qualities. It is a lightweight, portable handheld vacuum sealer that can be used on any plastic bag or jar (Raw Nutrition 2014) There are no specific packages required for the Pump-N-Seal unlike its' competitors which require expensive specialized packages (Raw Nutrition 2014). The Pump-N-Seal can be easily utilized in 3-4 steps by a variety of individuals (Raw Nutrition 2014). For jars, instructions are as follows: punch hole in lid, apply Tab-Chek to seal the hole, position Pump-N-Seal, pump and remove (Raw Nutrition 2014). For bags: insert bag adapter, pump a few strokes, remove adapter and zip (Raw Nutrition 2014). One pillar in the design of the Pump-N-Seal is the specialized Tab-Chek. The Tab-Chek is a patented, reusable check-valve that is applied over the hole in a jar lid (Raw Nutrition 2014). Over the hole, the Tab-Chek acts as a bandaid sealing the hole and allowing the air to be pumped out by the sealer itself (Raw Nutrition 2014). As shown below in Table 1 by Pioneering Concepts Incorporated, the Pump-N-Seal is unmatched in its' competition. These simple and efficient vacuum sealers would be beneficial to any Nepalese with ties to agro-industries.

Table 1, Brand Comparison (Pioneering 2014).

<b>BRAND (company)</b>	<b>AMOUNT OF VACUUM</b>	<b>PRICE CANADIAN</b>	<b>USED WITH:</b>
<b>Pump-N-Seal Starter Kits</b> (Pioneering Concepts, Incorporated)	28.9 inches Hg (over 30 times more powerful than most below)	\$59.99 \$89.94 with optional Bowl-Seal	Ordinary jars, or canning jars, ordinary freezer bags or heat sealable bags, wine bottles, coffee mugs, pots, pans, bowls & more
FoodSaver (Tilia)	24.2 inches Hg	\$200 to \$300	Specialized bags and specialized containers only.
Pak'n Save (Decosonics)	2.5 inches Hg	\$50 to \$60	Specialized bags only
Vac-U-Pac (Hamilton Beach)	0.639 inch Hg	\$50 to \$60	Specialized bags only
Freshlock Vac Sealer (Deni/ Keystone)	0.448 inch Hg	\$50 to \$60	Specialized bags only
Seal-A-Meal III (Dazey)	less than 1 inch Hg	\$50 to \$60	Specialized bags only

The market for vacuum sealers in Nepal appears to be more of a niche product. Nepalese families could purchase vacuum sealers for personal use however, they are expensive considering the little money they have available for personal use (Numbeo 2014). Vacuum sealers would normally be purchased by higher income farmers, merchants, and businesses. Goods can be sealed in either plastic bags or jars for storage, or sold as a commodity. Nepal has

other options when picking a vacuum sealer as both India and China offer their own sealers (Khushi 2014). However, these vacuum sealers are far larger and more expensive than the Pump-N-Seal (Zauba 2013). A recent import of an automatic 40-head vacuum cap sealer from India to Nepal cost a total of 3,949,231.81 Nepalese Rupee (Zauba 2013). Although this import is a piece of machinery for a company, it demonstrates that the Nepalese are willing to invest large sums of money towards purchasing vacuum sealer equipment. In 2013, India exported vacuum sealer equipment worth \$204,161.36 Canadian dollars (Zauba 2013). Of that amount, Nepal imported vacuum sealer goods worth \$44,399.81 Canadian dollars (Zauba 2013). In Nepalese Rupee that import amount is worth a staggering 393,0068.90 (Canadian Dollar 2014). Nepal and its' citizens are ready to pay the price for quality vacuum sealer equipment, and the introduction of the Pump-N-Seal could have a great impact on not only Nepal, but also Canada.

Canadian exports have dropped during the recession and by supporting exports to developing countries, Canada would also improve its' economy. The 2008 recession hit Canada's exports harder than any post-war recession, decreasing them by approximately 20% from 2008 to 2010 (Macklem 2013). This resulted in the loss of almost 9,000 firms, as many Canadian exporters either went out of business or turned to only servicing Canadian markets. (Macklem 2013). This decline was largely due to the weakest foreign demand for exported goods in years (Macklem 2013). The Canadian share of the world's exports have been on the decline for more than a decade; this decline has had a huge affect on Canada, as more than 60% of Canada's Gross Domestic Product (GDP) is made up from international trade (Foreign Affairs 2014) (Macklem 2013). According to a press release by The Honorable Ed Fast Minister of International Trade in Canada: "under the Global Markets Action Plan, the Government of Canada will concentrate its'

efforts on the markets that hold the greatest promise for Canadian business.” (Foreign Affairs 2014). By exporting vacuum sealers to Nepal, Canada would be broadening its’ exportation ranges. According to the Nepal embassy in Ottawa, Ontario, Nepal imports primarily peas, propellers, and other scientific apparatuses (Ghimire 2013). Canadian imports from Nepal are primarily ready-made garments and apparels which accounts for 85% of total imports (Ghimire 2013). Other imports from Nepal include: carpets, Jewelry, carved items, and metal images (Ghimire 2013). In 2011, Nepal imported goods worth a total of \$6,339,000 Canadian dollars, a stark contrast to Canada’s \$15,728,000 worth of imports from Nepal (Ghimire 2013). There is ample opportunity to increase these values and not only support economies but also political relations. This fairly untapped market should not go to waste as there is an economic niche that is left to be filled.

That niche is exporting agricultural goods to Nepal, a potential that would help improve Canadian exports as well as create numerous jobs. The Canadian Global Markets Action Plan outlines potential emerging markets as being: “where Canada has investment links, where Canada could hold a first-mover advantage, where the corporate social responsibility of Canadian companies gives them an advantage, where Canada sees opportunities to develop infrastructure or talent; and/or that are potential treaty partners.” (Foreign Affairs 2014). The installation of democracy in 2006, has improved political relations between Canada and Nepal and has opened new possibilities for Nepal. (Ghimire 2013). By improving exports, Canadian jobs will be supported (Foreign Affairs 2013). Exports affect jobs directly to those producing the goods and services, and indirectly to those providing supporting activities to the producers (Foreign Affairs 2013). Canada is looking for new trade opportunities and according to the

Canadian Global Markets Action Plan: “Deeper trade with partners such as India and the European Union could provide Canadian businesses with improved access to markets that have a combined GDP of nearly \$20 trillion and more than 1.7 billion people, creating thousands of jobs in Canada.” (Foreign Affairs 2014). There are permits required to export to India and China though most are not publicly available. Due to Nepal’s close proximity to India and China, exports to Nepal could be easily included into shipments to these countries. Though exporting vacuum sealers alone to Nepal will not solve Canada’s economic shortcomings, utilizing the need Nepal has for new agro-technologies would spark new vigor in Canadian specialty exports.

## **Part II - Export Potential to Nepal**

Nepal has a population of which approximately 70% work in the agriculture sector making up 38% of the nation’s total Gross Domestic Product (USAID 2014). However, Nepal has had difficulty producing an adequate supply of food for its’ population (USAID 2014). The number of children in Nepal with acute malnutrition is reaching emergency levels (IRIN 2012). A global acute malnutrition rate comprising of both moderate and severe acute malnutrition that exceeds 10%, is considered a nutrition emergency (IRIN 2012). These levels have not changed over a 15 year period with millions of dollars invested towards Nepalese nutrition (IRIN 2012). Nicolas Oberlin, deputy country director of the UN’s World Food Program, stated: “The prevalence was the same in 1996. If we look at the number of children affected, the situation has even deteriorated due to the population increase.” (IRIN 2012). Children are affected the most, because 60% of their deaths can be attributed to malnutrition (IRIN 2012). As of 2011, the Department of Health (DOH) has estimated that malnutrition has affected nearly 11% of children under 5 years old (IRIN 2012). If Nepal is to further develop as a nation, it must have a strong

future population that is not being destroyed from the inside out (IRIN 2012). Therefore, further developing the agricultural sector of Nepal is critical for growing the nation's economy, as well as feeding and providing for its' population.

Due to the ongoing challenge of feeding its' population that Nepal faces, if vacuum sealers were used to store crop seeds and food, it will increase their shelf life in a safe and economical way (Ells 2014). According to the Nepalese Department of Agriculture, one of their main objectives is: "to support food security by increasing food production and maintain the internal supply of food stuffs," (Government of Nepal 2014). The Nepalese Department of Agriculture goes on to state that they will meet this goal by: "Ensuring the supply of productive materials and inputs through the participation of entrepreneur farmers and private sector in developing agricultural technologies, extension and revitalization of resource and distribution centers." The Pump-N-Seal vacuum sealer could very well play a part in reaching this goal. Vegetable and flower seeds may be kept for approximately one year without appreciable decrease in germination (Ells 2014). Seeds normally last 2-3 years if kept in a cool, dry container (Ells 2014). However, if stored in packages where moisture is less than 8%, they can last up to 10 years (Ells 2014). This increase in shelf life is attributed to less moisture as the drier the seeds are, the longer they will last (Ells 2014). Conditions that are necessary for proper seed storage are the opposite of those required for proper germination (Ells 2014). Good germination will occur when water and oxygen are present at a seed specific temperature however, good seed storage results when seeds contain less than 8% moisture and the storage temperature is kept below 4 degrees celsius (Ells 2014). The Pump-N-Seal has the ability to add this longevity to a seed's storage. Due to the Pump-N-Seal's ease in use and high mobility, it is the ideal sealer to be

used by Nepal's population. By sealing seeds, Nepal's agriculture industry would have them available for future crops as well as selling them as a commodity.

The marketing of the Pump-N-Seal can be based on two separate strategies. The marketing mix is described as a set of controllable tactical marketing tools that a company will utilize to induce a desired response from its target market (MaRS 2014). In the case of Pump-N-Seal's exportation to Nepal, the target market is higher income farmers, merchants, and businesses as they are the probable citizens that would have the money to purchase the sealers. The mix is a strategy by a company to influence demand for their product and to plan and follow through with a marketing scenario (MaRS 2014). The first of these strategies is known as the 4 Ps (MaRS 2014). The 4 Ps can be broken up into the product (the goods or service offered by the company), the price (the amount of money that the customer must spend to purchase the product), the place (how the product is available to the consumer), and finally promotion (the ability to communicate the product's features, benefits, and persuades the consumer to purchase the product) (MaRS 2014). The second strategy changes the 4 Ps into the 4 Cs. The 4 Cs have the customer's best interests in mind instead of the seller (MaRS 2014). The 4 Cs can be broken into the customer solutions (the customers want to purchase a product or service that will solve an issue in their lives), the customer cost (customers want to know the total cost of acquiring and utilizing the product or service), the convenience (customers want a product or service to be as convenient to purchase as possible), and finally communication (customers want to be able to communicate with the company that made the product) (MaRS 2014). In exporting the Pump-N-Seal to Nepal and marketing it there, it is important to utilize elements from both strategies. Rebates can be offered in which the cost of the unit or part of the cost is alleviated from the

consumer in order to cheaply promote said item. (China n.d.). While it will initially result in a net loss in profits, it will increase future profits due to the cheap promotion and an individual's ability to create demand in a community that would otherwise be ignorant of the product (China n.d.). Rebates allow a cost effective means to getting more of the product available to a greater consumer base (China n.d.). The rebate could either cover the complete cost of the product, or a portion of the total price during the initial exports to Nepal in order to test the market, gain customer trust for quality products, and gain a larger market share in that economic niche (China n.d.). Due to the extreme poverty in Nepal, the promotion of the Pump-N-Seal will largely be verbal. The only other potential marketing techniques would be from billboards, newspapers, and other written media outlets. The advertising of the Pump-N-Seal in Nepal will test the market and introduce the product to more individuals.

Calculating the cost of shipping the Pump-N-Seal to Nepal is difficult as most cost generators are for private shipping and values for industrial shipping are rarely publicly available. Using a cost generator offered by the United Parcel Service Incorporated, the price for private shipping can be found (UPS 2014). Using approximate hypothetical values, shipping from Raw Nutrition headquarters in Ottawa, Ontario, Canada to Nepal's capital Kathmandu using a package with the dimensions 24 x 18 x 24, weighing 40 pounds with a customs value of 60 Canadian dollars will take 9-10 days at a cost of approximately \$1,500 Canadian dollars (UPS 2014). However, using a cost generator offered by A1 Freight Forwarding the cost is much lower. Shipping using an ocean freight (less than container load) from Vancouver, Canada to Chennai, India using the same estimated box dimensions and weight of 24 x 18 x 24 and 40 pounds it will cost an estimated \$305.32 Canadian dollars. However, the cost of shipping from India to Nepal

must also be taken into consideration. It must be remembered that these values are hypothetical and the shipping method will vary. If industrial shipping were used, the cost would be far less as the goods land at ports in either India or China and then are transported to Nepal.

Exporting to Nepal will become easier as the country continues to develop. Literacy rates are dismal in Nepal with a total adult literacy rate at 57.4%. However, there have been improvements in Nepal's education sector (World Food Programme 2014). The enrollment rate of children in grade 1-8 is currently at 87% (World Food Programme 2014). Gender equality in schools has also increased as for every 100 boys enrolled in public schools there are 99 girls (World Food Programme 2014). With the literacy rate projected to rise in the coming years, Nepal will further develop and more businesses will be created (World Food Programme 2014). One such company is the Arbind Agro Center located in Kalaiya Nepal (Arbind 2014). The Arbind Agro Center functions as an importer, exporter, distributor, wholesaler, and as a shop (Arbind 2014). Established in 1993, Arbind is a growing business with loyal customers (Arbind 2014). A contact phone number is 977-53-550348. Potential, the Pump-N-Seal could be exported to Arbind Agro Center and then sold to other consumers.

Exporting vacuum sealer equipment to Nepal would not only be beneficial for that country but also for Canada. Nepal has difficulties feeding its' citizens and is a nation attempting to gain traction and develop as a nation. Canadian exports to Nepal are currently small, and with international export rates falling, Canada must explore new markets to strengthen its' economy and create new jobs. The Pump-N-Seal is a reliable and simple means that has the potential to not only feed, but also save human lives in Nepal. Vacuum sealing seeds will insure future access to food, and can be sold as a commodity in the present. The Pump-N-Seal can have an impact on

Nepal, and although many will not be able to afford to purchase one, this vacuum sealer still has a market and should be considered for export.

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