

Assessment of the Export Potential for MiniBulk Agricultural Bags from Canada to Nepal

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AGR*1110

Section 0103, Tuesday 8:30 am

1 December 2015

This is an assessment of the potential to export agricultural storage bags from a Canadian company to Nepal. Socioeconomic benefits to both Canada and Nepal are discussed in detail, along with the logistics and financial reasons for following through with this opportunity. Challenges and alternatives to this trade arrangement are discussed thoroughly. There is potential for Nepal to benefit from importing this product from a number of exporting nations.

Part 1: MiniBulk Agricultural Storage Bags Product Information

[MiniBulk Agricultural Storage Bags](#)

Keeping seed and grain safely and cost-effectively is often challenging, but MiniBulk Agricultural Bags provide a specialized approach to storage (MiniBulk, 2015). MiniBulk Agricultural Storage Bags are large, durable plastic sacks which may be ordered in different sizes and different degrees of breathability (MiniBulk, 2015). MiniBulk woven sacks are manufactured out of UV-treated polypropylene (MiniBulk, 2015). Polypropylene is a tough oil by-product (MiniBulk, 2015). The polypropylene is treated with UV light with the purpose of giving the material a longer, branched molecular structure, which makes a more durable and resistant product (Amintwolieh, 2014). It is important for this product to be very strong, in order to hold grains securely for long periods of time, and be reused over multiple years.



Figure 1: Image of MiniBulk bag of potatoes (MiniBulk, 2015, Retrieved from <http://www.minibulk.com/>)

International Manufacturing

These custom bags are manufactured internationally, wherever it is most economical to do so at the time. Since this product is essentially plastic, it may be manufactured in many countries with different climates. It does not require refrigeration, or specific levels of humidity as other products might, and thus foregoes many challenges in transport and storage. It is not biohazardous, and thus requires minimal paperwork in comparison to trading biological materials.

Bag prices fluctuate with raw materials, transportation, and exchange rates. However, very large bulk bags can typically be purchased for under ten dollars, and smaller sacks may be less than a dollar when bought in bulk.



Figure 2: Image of MiniBulk logo (MiniBulk, 2015, Retrieved from <http://www.minibulk.com/>)

Canadian MiniBulk

MiniBulk is a Canadian company which manufactures their specialty bags internationally. They maintain a supply of thousands of prepared bags in Canadian warehouses for minimal wait time in distribution, and offer the option to customize bags for a specific product, size, and storage style (MiniBulk, 2015). They currently have between 20 and 50 employees, with their Calgary headquarters typically employing 8 individuals (Zoom Information, Inc., 2015; Find The Company, 2015). MiniBulk's marketing coordinator is Marty Dilworth (MiniBulk 2015).

MiniBulk Contact Information:

Canadian headquarters:	601 Manitou Road SE, Calgary, AB, T2G 4C2
Email:	info@minibulk.com
Telephone:	403-228-9555 800-553-4964 (toll free)
Fax:	403-228-9661 877-358-1563 (toll free)

The input required in a Canadian warehouse is minimal for this product, as it does not require refrigeration or a stringent time limit from production to reception by consumers. Thus, seasonality is not a concern for the Canadian operations, aside from heating/cooling office areas for worker comfort.

These bags are sold on a pallet. If all of the compacted bags in a single MiniBulk pallet are unfolded and filled, they can collectively hold 255 tonnes (MiniBulk, 2015). The number of bags per pallet depends on the size and type of bag ordered.

Custom bags may be ordered online at <http://www.minibulk.com/minibulk-bags-for-agriculture>.



Figure 3: Image of MiniBulk bags (MiniBulk, 2015, Retrieved from <http://www.minibulk.com/>)

Bag Purpose

Storage bags do more than just hold a farmer's harvest in one place. In order to maintain optimal seed health for the next growing season, as well as for future consumption, many aspects must be taken into account. Temperature, humidity, light, pests, transportation, and ventilation all impact seed health (Pleasant, 2006). Suboptimal storage conditions may encourage fungal growth, insect pests, and reduce future germination. As well, crops have different optimal storage conditions. In general, to suppress mould and retain viability, seeds should be dried and stored with good ventilation, out of direct sunlight (Pleasant, 2006). MiniBulk storage bags are customizable with different degrees of breathability, so produce such as onions may be stored in very permeable fabric, while small seeds can be contained securely in large bags (MiniBulk, 2015). MiniBulk also offers the option to customize bags with logos to help farmers and dealers market their product (MiniBulk, 2015). All customized characteristics are done with a purpose. Due to this versatility, storage bags are not niche products.

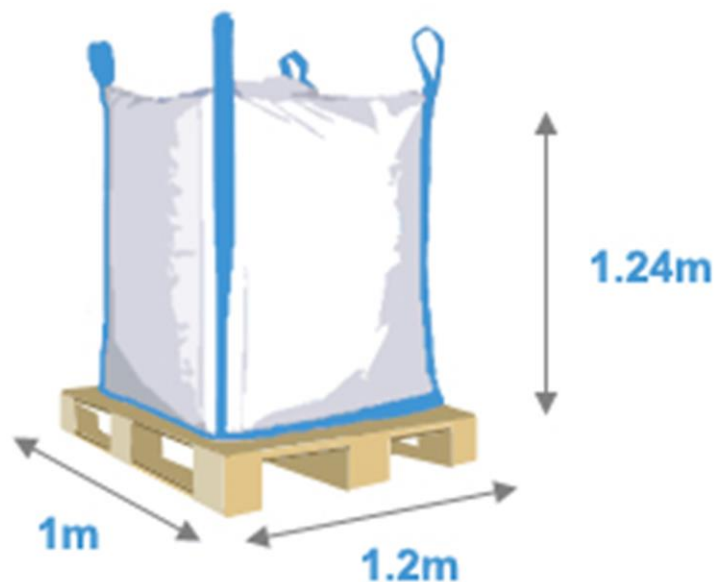


Figure 4: Diagram of bag dimensions for a possible customized bag (Aggregates Direct, 2015)

Competitive Companies

BAG Supplies Canada Ltd. is another Canadian company that supplies similar bulk bags (BAG Supplies Canada Ltd., 2015). They offer a wide variety of sizes and styles. This company also manufactures their bags internationally, and offers to customize bags (M. Wilson, personal communication, October 18, 2015).

GrainPro, Inc. sells storage bags that are a more advanced technology (GrainPro, Inc., 2014). Their bags are designed to allow moisture to escape, but not enter (GrainPro, Inc., 2014). This is incredibly advantageous in keeping grain dry. The 75 cm by 130 cm bags cost from \$2.25 to \$4.50 each (GrainPro, Inc., 2014). As the prices for this type of product drop over time, it will pose more of a threat to the average storage bags. However, when these bags are full of grain, they typically need larger, sturdier bulk bags to be transported or stored in. Therefore, MiniBulk bags and other general bulk storage bags would still maintain export potential.

Benefits to Canada

There are similar packaging material distribution companies in Canada which also manufacture their products internationally. Manufacturing internationally significantly decreases the cost of raw materials and labour. These companies typically do not use Canadian raw materials. However, the growth of a Canadian distribution company is economically beneficial to Canada. Exporting bags from Canadian warehouses creates the potential to employ more workers within the company. Job-creation may be more-notably impacted in the Canadian transportation sector, as these bags require trucking and freight shipping in their export to Nepal.

Part 2: Export Potential to Nepal

Nepal

Nepal is in South Asia. It is a landlocked country between India and China. Nepal has diverse topography, with mountains, hills, and terai (Goldstein *et al.*, 1983). Its population depends on a variety of agriculture. Some crops grown in Nepal are barley, potato, wheat, rice, millet, and maize (Belbase & Grabowski, 1985). According to FAO, 2015 following the earthquake in Nepal this April, farmers are in need of immediate grain storage capacity. It is tremendously important for farmers to be able to store their crops well, so that they may use and sell them at appropriate times. MiniBulk Agricultural Bags can be a part of the solution by supplying bags at competitive prices.



Figure 5: Map of Nepal in South Asia (Cacahuate, 2008)

Nepal's Needs and Bag Benefits

When possible, selectively breeding seed from a previous season can be advantageous and cost-effective for a Nepalese farmer (IRIN, 2012). Paying for new seed each season is a consistent expense. Buying hybrid seeds from an international source every growing season can make a farmer intensely dependent on this resource, and may push out indigenous crops (IRIN, 2012). It can be dangerous to lose indigenous crops and farming systems, as imported stock may not survive natural disasters that indigenous plants would persist through. Depending on where the seeds are coming from, the varieties available may not be well-adapted to a farmer's specific climate. For example, rice seed imported from a very wet area of China may not produce optimal yields in a Nepalese farmer's field that happens to have trouble retaining moisture. However, the farmer might have another option. Instead of paying for new seed each growing period, farmers can produce a variety adapted to their specific location. Selecting for better crops involves taking seeds from plants that grew the best in a certain area, and planting those seeds the next year (Schlege, 2009). With simple seed cleaning, drying, and proper storage, seeds may be planted the next year with good chance of germination success (Pleasant, 2006). Farmers may also selectively breed their plants to select for the best traits (Schlege, 2009). They can use the pollen from one desirable plant to fertilize another desirable plant's flower, and produce seeds (Schlege, 2009). The goal is for the next generation of plants to have as desirable or more desirable traits than their parents (Schlege, 2009). For example, ear and tassel bags may be used to selectively breed maize (Hallauer *et al.*, 1988). When so much effort is put into preparing those seeds for planting, it is essential to make sure they last until then next season. MiniBulk's agricultural bags help optimize the conditions for storing that seed for future

germination. This is especially significant in Nepal right now, because they must be able to plant new crops to supply food in the coming seasons.

It's also important to be able to store food simply for later consumption. The crop yield needs to subsist farmers' families until the next harvest (Rockefeller, 1969). Any seed that is being sold is very important for a family's income (Rockefeller, 1969). If seed does not keep for very long, a farmer must sell it early after harvest, when supply is higher than demand. It's optimal to sell when demand for a product is high, and supply is low (Taverner, 2015). If a farmer is able to use agricultural storage bags to extend the life of their grain, they are at an advantage. They can then choose to sell the grain when economic supply is low, and prices are high. MiniBulk Agricultural Bags can be a part of the solution by supplying bags at competitive prices. What seems like a simple bag is really an opportunity for greater food security and greater economic security.

[Transportation](#)

MiniBulk bags forego many barriers to import by not being composed of plant, animal, or biohazardous material. The fact that this product doesn't require refrigeration or stringent timelines leaves transportation options fairly open, and the mode of transport may be chosen based on the current economic situation. This helps reduce costs over time, and decreases the imminent impact of fluctuating fuel prices on cost of the final product.

These bags may be transported from Toronto to Kathmandu by a cargo company such as A1 Freight Forwarding (2015). They would be driven on a transport truck from Toronto to the Port of Montreal. From there, they may be shipped to the Port of Kolkata in India. There are alternate routes, such as trucking bags from the Calgary warehouse to Port Metro Vancouver,

and shipping from there. However, the cost of trucking the product from the warehouse to the coast would be greater than the shorter trip in Eastern Ontario. Driving from Calgary to Vancouver covers approximately 972.5 km, while the trip from Toronto to Montreal is only about 541.2 km (Google Maps, 2015). Since Nepal is a land-locked nation, docking in the Port of Kolkata would be followed by another truck trip to Kathmandu (A1 Freight Forwarding, 2015). A1 Freight Forwarding provides both truck and ship transportation. Their trucking arrangements cover both the trip from Toronto to the Port of Montreal, and from the Port of Kolkata to Kathmandu. Trips may be booked over telephone by calling 1-800-280-0277, or booked online at <http://www.a1freightforwarding.com/>. Once in Kathmandu, the product may be distributed to customers through existing agricultural supply networks, such as National Biosolutions Nepal (National Biosolutions Nepal, 2015). They may be contacted via telephone at 977-984-746-0634. This makes it easier to integrate the product into society, as it will be supplied to farmers by people who they already are obtaining agricultural products from. The whole trip would take approximately 32 days (Cargo Router, 2014). As mentioned, this time frame is no issue, due to the durability of the polypropylene product.

[Trade Documentation](#)

As for the legalities of export and import, the documentation is less severe because no biological materials are being traded. The standard Canadian export permits must be completed. They may be accessed via <http://www.tradecommissioner.gc.ca/eng/step7.jsp> (Canadian Trade Commissioner Service, 2015). Documentation for import to Nepal may be accessed through Nepal's Ministry of Finance's Department of Customs via <http://www.customs.gov.np/en/>. The Department of Customs will tax the imported materials (Government of Nepal, 2015).

Nepalese Buyers

MiniBulk agricultural bags can be beneficial to a variety of farmers. The subsistence farmer must keep his seed safely for future planting and for his family to consume (Rockefeller, 1969). Smaller versions of the agricultural bag will be more attractive to him. Small farmers in a community may also group together. They can pool their resources to purchase large bags to share, or buy smaller bags in bulk and split them between themselves. Larger, more commercial farmers will also utilize agricultural bags. It is very important to store their large quantities of grain safely. They may be interested in the larger versions of the agricultural bags. The optional heavy-duty straps may be valuable to them, as the heavy bags may be picked up using a forklift in transport to a market (MiniBulk, 2015). MiniBulk's option to print logos on bags may also be advantageous to these farmers, as they can support a professional marketing strategy (MiniBulk, 2015). Wholesalers can also make use of agricultural bags to collect, transport, and sell grain. They may use large bags to combine large amounts of grain, or use them to place smaller bags into. Applying logos may also be beneficial to these wholesalers over time (MiniBulk, 2015).

Competition

The small farmers may find it reasonable to attain their small bags for around \$1 (Raizada, 2015b). To make this possible, it is important for suppliers to keep the transport and trade costs at a minimum by selling in bulk and transporting overseas when fuel costs are low. The larger-scale farmers may find it unreliable that the large bags around \$10 have such an ability to fluctuate in price. There will be steadier pricing from companies on the same continent, which use their own raw material of oil by-products to produce the bags. For example, China shares a border with Nepal. They would have minimal freight transportation costs as an exporter in comparison to Canada. This reduction in cost would flow down to the farmers. This gives Asian companies a large advantage over MiniBulk, BAG Supplies Canada Ltd., and other North American companies. Although MiniBulk's product is so customizable, farmers may access products that serve their needs for a lower price. Similar bags which hold up to a tonne of product may sell for as little as \$1 per bag on Alibaba from China, while it may cost up to \$10 coming from Canada (Alibaba, 2015). Another reason for this price difference is the availability of cheap labour (Chan, 2003). Even though MiniBulk's product may currently be more specialized to meet a farmer's needs, and can have similar pricing at certain times of the year, the whole unreliability of the final price of the product makes it insensible to import large quantities on a regular basis. China-based companies like Linyi Huailiang Plastic Co., Ltd. (2015) may make even more customization choices in the future, for a lower cost. Asian countries also have shorter delivery times because they are so much closer to the destination. If the trade with Canada is done only when the final price point is low, then MiniBulk bags could be part of a beneficial exchange. However, the benefits are thus limited.

Analysis of Negative Impacts

Since Nepal is in such a great need for agricultural storage equipment, there is not foreseeable harm done to Nepalese people by the import of this product (FAO, 2015). Whether it is coming from Canada, China, India, or another country, these bags will make positive impacts on the Nepalese economy through their supply chain. Giving farmers the ability to keep their grain and sell it more effectively will also have long-term economic benefits, as the farmers reuse the bags over years (MiniBulk, 2015). Ultimately, the major factor to encourage the import of this product is the positive impact it can have on food security.

Government Initiatives

As can be seen in Table 1, Nepal's capital share of agricultural expenditures is 46% (Lowder *et al.*, 2012). This is slightly higher than the simple average of 42% for the low- and middle-income countries studied (Lowder *et al.*, 2012). There are significant governmental investments already being made in Nepal's agriculture. Agricultural storage bags supply an opportunity for noteworthy further investment.

Table 1: Found in *Who invests in agriculture and how much?* (Lowder, S.K., Carisma, B., & Skoet, J, 2012)

Table 1: Share of capital expenditures in overall agricultural expenditures from selected public expenditure reviews

Country	Notes	Period	Capital share of agricultural expenditures
			(Percentage)
Ghana ⁽¹⁾	Development, total (a)	2005	17
	MoFA, actual		24
	MoFA, budgeted		46
Honduras ⁽²⁾	..	2006	66
Kenya ⁽³⁾	..	2004/05	30
Lao People's Democratic Republic ⁽⁴⁾	..	2004/05	84
Mozambique ⁽⁵⁾	Total (b)	2007	84
	MINAG		9
Nigeria ⁽⁶⁾	Budgeted	2001-05	58
	Actual		44
Nepal ⁽⁷⁾	(c)	1999-2003	46
Philippines ⁽⁸⁾	(d)	2005	26
Uganda ⁽⁹⁾	..	2005/06–2008/09	24
United Republic of Tanzania ⁽¹⁰⁾	..	2011	9
Viet Nam ⁽¹¹⁾	..	2002	77
Zambia ⁽¹¹⁾	..	2000	24
Simple Average			42

Notes: (a) Development as opposed to recurrent expenditures. Covers all government expenditure, as opposed to only those made by MoFA (Ministry of Food and Agriculture), the latter accounts for about 25 percent of total government expenditure in this sector. (b) 84 percent refers to total government expenditure; 9 percent is for MINAG (Ministry of Agriculture) only. (c) Includes irrigation and agriculture expenditures. (d) Consolidated Department of Agriculture expenditure figures.

.. = data not available.

Sources: (1) Kolavalli *et al.*, 2010; (2) Anson and Zegarra, 2008; (3) Akroyd and Smith, 2007; (4) Cammack, Fowler and Phomdouangsy, 2008; (5) World Bank, 2011a; (6) World Bank, 2008; (7) Dillon, Sharma and Zhang, 2008; (8) World Bank, 2007b; (9) World Bank, 2010; (10) World Bank, 2011b; (11) Akroyd and Smith, 2007.

If MiniBulk or another Canadian agricultural bag supplier is chosen to help implement the use of these bags, it may be incorporated into the SAK Nepal bilateral trade initiative. This project stimulates both the Canadian and Nepalese economies, as useful and beneficial foods and technologies are traded between the two countries with an agricultural focus (Raizada, 2015a).

Future Studies

To fully evaluate the export potential of MiniBulk agricultural storage bags, more information should be gathered. It is not currently known how receptive farmers will be to this product, and how much they will be willing to spend. In advertisement, it is important to educate farmers on all of the benefits these bags afford (see above: [Nepal's Needs and Bag Benefits](#)). Once farmers understand what they can gain from MiniBulk agricultural bags, it is a matter of determining how much of their budget they will be willing to spend on this product. If it is worth the final cost of the product, it may be a profitable venture. However, even if it is not economical to export these bags from Canada for the quantities that Nepalese people will purchase, it is likely that bag supply companies in Asia can successfully fulfill the need (see above: [Competition](#)).

Going forward, it is very important to address that managing and marketing training may help Nepalese farmers sell their seed and grain (Witcombe *et al.*, 2010). MiniBulk's option to print logos on bags can work into marketing strategies.

Critical Summary and Recommendations

Agricultural storage bags are extremely useful products that are made internationally and used worldwide. They can provide numerous benefits to Nepalese farmers, especially after the earthquake of April, 2015 (FAO, 2015). It is beneficial for Nepal to import agricultural storage bags from a company that supplies a variety of sizes, breathability choices, and styles. MiniBulk may be an option at times when overall pricing is optimal, and in coordination with the SAK Nepal project (MiniBulk, 2015; Raizada, 2015a). It may be ideal for Nepal to seek import of this product from numerous countries, and support the companies bringing them the best quality and price over time. Making connections with reputable retail companies and supply chain networks that are trustworthy to do business with should aid in having access to the product at times of high demand. For Canadian companies to be potential exporters in the future, they must optimize transportation cost and delivery time efficiency. There should also be investigation into advanced storage technologies that produce similar results to GrainPro storage bags. Reducing production costs of this type of technology would make a company much more competitive on a global market.

Overall, agricultural storage bags will be a beneficial investment for the farmers of Nepal. The country has numerous choices for companies to most cost-effectively import the bags from.

Word Count: 3156

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