

Exporting Bioprotec CAF to Nepal

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➤ **Part 1**

In Canada, many companies aim to promote products that can potentially improve the overall agricultural yield of the country. AEF Global is a Quebec company established in 1997 that specialises in making biopesticides and natural fertilizers. Over the years AEF Global has produced and marketed approximately fifty products which have been distributed to several garden centres, hardware stores and chain outlets (AEF Global A, n.d.).

The major brand of AEF Global is Bioprotec. Bioprotec CAF is an insecticide and is amongst one of many products produced by the company (AEF GLOBAL A, n.d). Bioprotec CAF is developed and produced in Quebec, Canada (AEF Global B. n.d.). This insecticide has been on the market since 2000 and is capable of eliminating numerous varieties of insects & pests (AEF Global C, n.d). “AEF Global has been working on Bioprotec CAF for 12 years” said Vachon, 2014, Katharyn Vachon, Sales and Marketing Assistant at AEF global, during a telephone conversation on November 22 2014. “This product is practical, beneficial towards the environment and competitively priced”. (AEF Global C, n.d.).

Nepal, an under developed country in which agricultural related affairs constitutes the majority of incomes, could potentially benefit from this product (Society for solidarity of children, n.d.).

What pests will it help control?

Bioprotec CAF is toxic to specific species of the Lepidopteran larvae. These pests include; Cabbage Loopers, Imported Cabbage Worms, Diamond Back Moths, Leafrollers, Essex

Skippers, Hornworms, Rangeland Caterpillars, Winter Moths, Fruitworms, White Marked Tussock Moth, Green and Brown Spanworms, Sunflower Moths, Banded Leafrollers, Tomato Fruitworms and European Corn Borers (Bioprotec CAF A, 2008).

What crops will it protect?

Bioprotec CAF will protect a large array of fruits and vegetables. Apples, Tomatoes, Asian Radish and Broccoli are just a few examples of crops that can be protected from pests by using Bioprotec CAF (Bioprotec CAF A, 2008).

How does Bioprotec CAF work?

Bioprotec CAF must be ingested by the targeted insects in order to be effective. It is water based and can be used diluted or undiluted. This product is suitable on field crops, greenhouses and orchards. It can be applied locally or through crop dusting (aerial use) (Bioprotec CAF A, 2008).

What Precautionary measures should be taken when using this product?

Pesticide rotation is recommended for field use. Since Bioprotec CAF is a group 11 insecticide, some insects may have already developed a resistance to it. Overusing the product on the same fields could result in an increase of insect resistance (Bioprotec CAF A, 2008).

However, Bioprotec CAF is less likely to cause insect resistance. Bioprotec CAF has an increased probability of maintaining its efficiency against insects developing an immune resistance (Bioprotec CAF B, n.d.).

Specific clothing such as gloves, boots, goggles and a protective coat should be worn during the application of this product. In a closed environment it is necessary to wear goggles and a

respiratory mask. Depending on the direction of the application, a hat may be needed (Sage pesticides, 2014).

What conditions must the product be used in?

Bioprotec CAF can be used in temperatures ranging from 15-28 ° C. This product is most efficient within the PH ranges of 5-10 (AEF Global C, n.d). It is preferable if no rain occurs within 24-48 hours of the insecticide application to allow the insects to inject the product (Bioprotec CAF A, 2008).

Is Bioprotec CAF environmentally friendly?

According to the government of Canada, Bioprotec CAF is not dangerous towards the environment, human and animal health (Agriculture and Agri-Food Canada A, 2012). Bioprotec products will not affect bees or other pollinating insects (Agglobal, n.d.). Bioprotec CAF has been classified as an organic insecticide (Bioprotec CAF B, n.d.). Organic insecticides are made from products formulated by living beings (Bugs, n.d.) The use of microorganisms such as; viruses, bacteria, fungi, protozoa or nematodes to kill pests are categorized as microbial insecticides (Russ, 2005). Bioprotec CAF contains the Bt (*Bacillus thuringiensis*) bacteria of the variety Kurstaki (Btk), which is toxic to caterpillars (Bioprotec CAF A, 2008). Bt is a bacterium that is found naturally in the soil (British Columbia, n.d.). It is safer to use microbial insecticides on the environment since the toxicity towards non targeted animals and humans is very low (Russ, 2005). However, it is impossible to completely avoid insecticide residue on the environment (Mahr , n.d.).

How long will Bioprotec CAF be efficient for plant use?

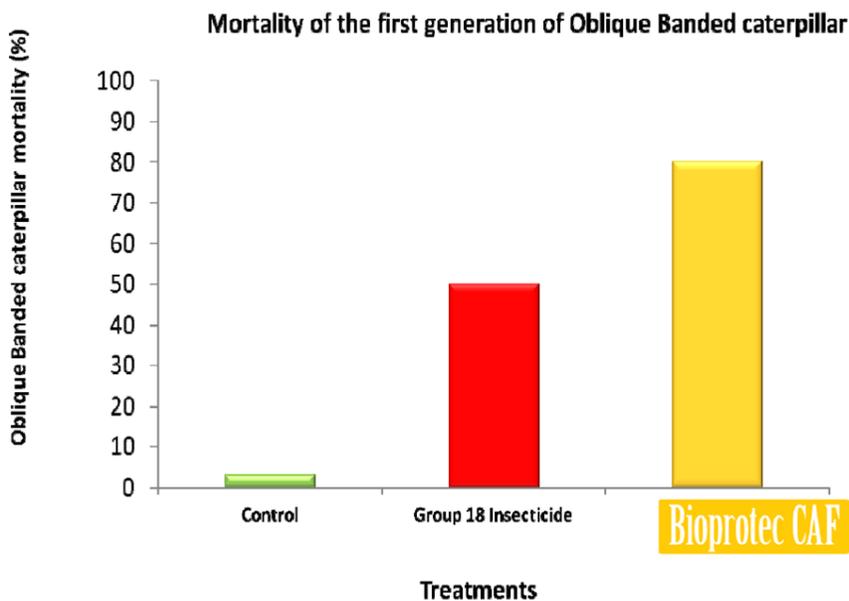
This insecticide will remain on the leaves of any type of plant for up to 8 days (AEF Global D, n.d.). Bioprotec must be used within 6 months of its production to be functional (Sage pesticides, 2014).

What differentiates Bioprotec CAF from other Canadian insecticides?

Bioprotec is organic and UV resistant (Terralink, n.d.). Most microbial insecticides that contain bacteria, fungi or viruses are usually vulnerable to UV light (Mahr , n.d.). However, even though Bioprotec contains the Bt bacteria, the product remains UV resistant (Terralink, n.d.).

Moreover, Bioprotec CAF is more efficient for killing oblique banded caterpillars than group 18 insecticides (Bioprotec CAF C, n.d.).

Figure 1: Mortality of the first generation of oblique banded caterpillar



<http://www.uap.ca/products/documents/BIOPROTECCAFSHEETAPPLEengFINAL.pdf>

What is the cost of Bioprotec CAF?

The price of Bioprotec CAF is 242.99\$ per 10 L (Greffard, 2014, Mélanie Greffard, Sales and Marketing Assistant at AEF global, email, Oct 9 2014, Quebec).

Are there any restrictions concerning the use of Bioprotec CAF in Canada?

The Canadian standard allows the use of Bioprotec CAF in organic crop production. The ingredients have been verified by Ecocert Canada by means of the National Standard of Canada on organic production systems and is among the permitted substances list (Ecocert, 2014).

How does Canada benefit from exporting Bioprotec CAF to Nepal?

Canada represents only a small portion of the world's consumers. Exporting allows Canadian businesses to expand their customer base. It allows companies to diversify from local highs and lows of the Canadian economy. For example, should the Canadian economy be in recession, other countries' economies may be growing. This would stabilize company revenue streams. Exporting may assist smaller firms and start-ups reach a broader audience for their products.

From a tax revenue standpoint, the Canadian economy depends on exports considering Canada's vast resource sector relative to the population. According to Farm Credit Canada, agriculture represents eight percent of Canada's GDP and twelve percent of its employment. Total Ag related exports accounts for over half of the agricultural economy. Over two-thirds of Canada's Ag exports are destined for the United States. However, slow US economic growth relative to emerging economies necessitates that Canada expand its trade relations with new markets to ensure maintaining and growing its trade revenues (Farm Credit Canada, n.d.). Looking at Nepal

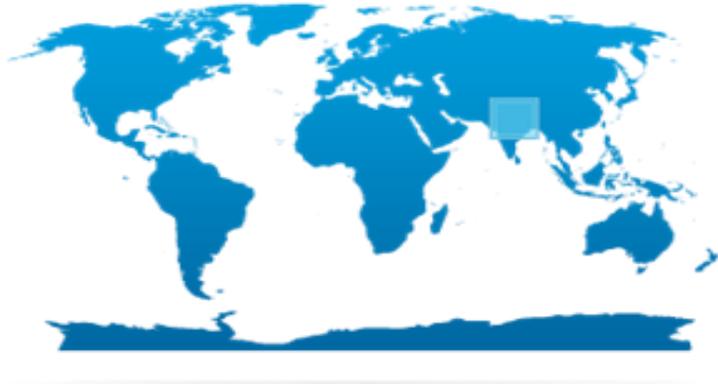
specifically, Canadian Agri-Foods exports exceeded C\$3 million in 2012 and year over year exports have grown over 90% (Agriculture and Agri-Food Canada B, 2014).

The benefits to Canada go beyond tax revenues. Export growth serves to increase domestic employment and intellectual advancements. According to Jason Myers, president of the Canadian Manufacturers and exporters, future jobs and income growth depend on business investment and exports. In 2012, the Canadian Agriculture and Agri-Food system provided one in eight jobs in Canada. This represents over 2.1 million jobs. Government expenditures in research and development (R&D) in the agriculture and Agri-Food sector represent a critical source of innovation and productivity growth. R&D investments by the federal government are estimated to rise to \$602 million in 2012-13 (Agriculture and Agri-Food Canada C, 2014).

Consequently, export growth will benefit Canadian farmers through development and availability of new products and improved agricultural practices. This should help increase yields, profits and ensure sustainability of our supply chain. Moreover, the recent global interest in organic products has been heightened by consumer health concerns (Agriculture and Agri-Food Canada D, 2010). Profit growth and reinvested R&D capital will be beneficial to domestic producers capitalizing in supplying the need for this growing global health trend.

➤ Part 2

Figure 2: Map of Nepal



Nepal is a small country located in between India and china (Denmark in Nepal A, n.d.).The climate in Nepal ranges from approximately 3.0°C to 33.0°C (Naturally Nepal, n.d.).

It is amongst the poorest countries of the world. In Asia, Nepal is the most financially troubled country (Denmark in Nepal B, n.d.).

In Nepal, agriculture is essential to maintain a stable economy. It represents 39 % of the country's GDP (Ministry of Agriculture Development, 2014). The grand majority of the population in Nepal work within the Agricultural sector (Manisha UK, n.d.). However, limited resources such as arable land make it difficult to improve yield. The Department of Agriculture in Nepal strives to attain food sustainability and increase crop production within the country (Ministry of Agriculture Development, 2014).

The major crops in Nepal are rice, corn and potatoes. Nepal is currently also growing crops such as cabbage, peas, cucumber, tomatoes, mushrooms, soybean, lentils and cauliflowers (Manisha UK, n.d.).

What regions in Nepal could benefit from Bioprotec CAF?

Any region in Nepal could potentially benefit from Bioprotec CAF since this product is very flexible in terms of PH and temperature ranges. However, Bioprotec CAF could be greatly advantageous in areas in Nepal such as Jumla and Jomsom. (AEF Global c, n.d.).

Jumla is a mountainous region in Nepal that is ideal for growing apples. Apples produced at high altitudes (2200-3000 metres) in Jumla seem to improve the quality of the fruit. As a result, there is a greater demand for Jumla apples in the market. However, Jumla remain amongst the poorest districts in west Nepal. Organic production commands a higher price of the fruits in the marketplace and result in greater profits (Spotlight News Magazine, 2014). In 2009, organic apples farmers in Jumla would receive 35 NPR (Nepaleese rupees) per kilo as opposed to 10 NPR per kilo for non organic production (Nepali times, 2009). Also, in Nepal there is a greater demand for organic foods in hotels (Durbar, 2014). Thus, the production of organic apples would be beneficial for local farmers as well as improving Nepal's overall economy (Spotlight News Magazine, 2014). Exporting Bioprotec CAF to Nepal can help in the production of organic foods since the product itself is organic (Bioprotec CAF B, n.d.).

Moreover, in 2009 the overall apple yield in Jomsom (a town in Nepal), has decreased by 60%. Apples diseases are a cause of decreased harvest (Nepali times, 2009). Insects are a major cause of plant diseases (Agrios, n.d.). Bioprotec CAF can help control insects pests, which could potentially reduce plant diseases (Bioprotec CAF A, 2008).

Furthermore, mountainous regions in Nepal could potentially benefit from Bioprotec CAF due to its UV resistant capabilities (AEF Global C, n.d.). High altitudes places such as Pokhara in Nepal tend to have issues related to excessive UV radiation (The Himalayan , 2011) . It would be

practical to use an insecticide such as Bioprotec CAF that is not affected by UV rays (AEF Global C, n.d.).

Is Bioprotec CAF suitable for the environmental conditions of Nepal?

Bioprotec CAF is functional within the PH range of 5-10 (AEF Global C, n.d.). In 2002, Fifty-one percent of all water sources in Nepal had a PH below 6.5. Two out of five municipal water sources had a PH above 8.5 (Warner, Levy, Harpp, & Farruggia, 2008). Bioprotec CAF is compatible with the wide PH ranges of Nepalese water. Thus, diluting Bioprotec CAF with water in Nepal will not affect the efficiency of the product (AEF Global C, n.d.).

Moreover, Bioprotec CAF works best in the temperature ranges of 15-28°C which is compatible with regions in Nepal. In Kathamdu, Pokhara and Chitwan the summer temperatures range from 19.5°C to 33.0°C. These temperatures coordinate well with Bioprotec CAF (Naturally Nepal, n.d.).

Does AEF Global receive help from the Canadian government?

AEF Global was granted \$100,000 from the Government of Canada through Canada's Economic Development Program in Quebec in order to assist in the company's exports (Canada Economic Development for Quebec Regions, 2014).

Export & Import Documentation

According to Canada's Border Services Agency (CBSA), the following steps are recommended to supplement current regulations (Canada Border Services Agency, 2014).

- ✓ **Acquire a business number.**

Before a product is eligible for commercial export from Canada, a business number is required. This is mandatory for both businesses and individuals. The Business Number is issued for an export account on file with Canada's Revenue Agency (CRA). The acquisition of a number is quick and free of charge (Canada Border Services Agency, 2014).

✓ **Specify and describe the product you want to export.**

This will help ensure that the product you wish to export is not regulated, restricted or prohibited by other government departments. CBSA will work closely with other government agencies, rules and regulations and also determine if special permits are required (Canada Border Services Agency, 2014).

✓ **Determine whether you will require the assistance of a licensed customs broker.**

As an exporter, you are responsible for completing the required documentation. The services of a specialist may serve invaluable should you or the firm lack the experience to guide you through the process (Canada Border Services Agency, 2014).

✓ **Identify if the destination country is prohibited by Canada.**

Certain countries are prohibited or restricted by Canada to receive our exports (Canada Border Services Agency, 2014).

✓ **Is the product permitted to be exported?**

Although insecticides are not listed in the 'Controlled Product List' they may be subject to other export restrictions. Applying for an advisory opinion is always recommended. (Canada Border Services Agency, 2014). Bioprotec CAF has been approved by the government of Canada to be exported to the United States and Mexico. AEF Global is aiming to further export their products internationally (AEF Global E, n.d.).

✓ **Is the product permitted to be imported into the destination country?**

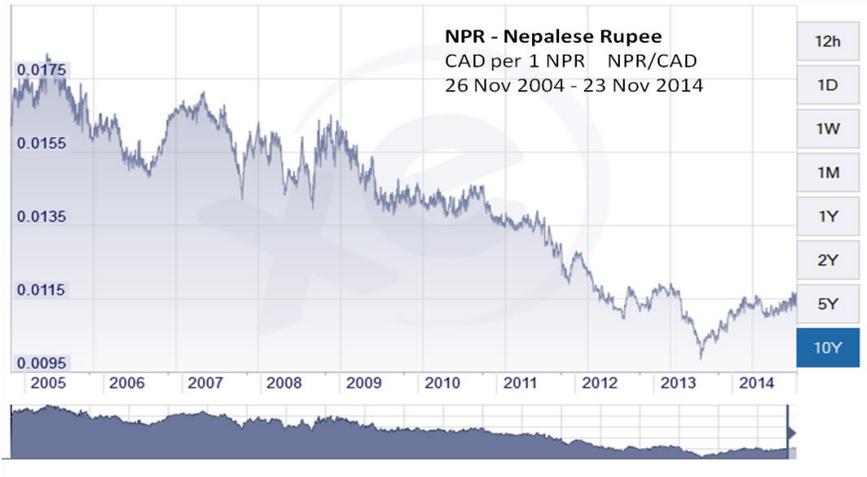
Verify if the product meets the import requirements of the receiving country by contacting the World Customs Organization, the embassy or consulate the receiving country and have the importer ensure the product is eligible for import (Canada Border Services Agency, 2014).

According to the government of Nepal, importers that want to sell their insecticides must complete an application dealing with all the government's applicable regulatory issues and meet their import requirements (Dhoj, n.d.).

Exporting to Nepal

Statistics about Nepal

NEPAL Economic / Monetary Highlights	
Nominal GDP	21.65 Billion USD
Population	27.83 Million
Total Trade/GDP	41.24%
Inflation	9.6%
Central Bank	Nepal Rastra bank
	(EDC, n.d.).
Currency	Nepalese Rupee (NPR)
Symbol	Rs
Minor Unit	1/100 = Paisa
Banknotes Frequently Used	Rs5, Rs10, Rs25, Rs50, Rs100, Rs500, Rs1000
Banknotes Rarely Used	Rs1, Rs2
Coins Frequently Used	Rs1, Rs2, Rs5, Rs10, 1, 5, 10, 25, 50
Currency Conversion @ 2014-11-22	NPR/CAD
FX Cross Rate: Canadian Dollar	1.00 NPR = 0.01131 CAD
Inverse	1.00 CAD = 88.4498 NPR
	(XE, n.d.)
CANADA Economic Development Corporation Statistics	For exports to Nepal
Canadian companies assisted	9
International buyers insured	4
Merchandise Imports from Canada	10.41 Million CAD
	(EDC, n.d.).



<http://www.xe.com/currency/npr-nepalese-rupee?c=CAD&r=>

Although the Nepalese Rupee has been weakening against the Canadian Dollar for the last several years, the trend has recently reversed. Should the NPR continue to strengthen against the Cando, this will make imports cheaper for Nepal’s end users.

NEPAL Transportation Infrastructure	
Airports:	47 (2013)
Country comparison to the world:	World Ranking # 94
Airports - with paved runways:	11
over 3,047 m:	1
1,524 to 2,437 m:	3
914 to 1,523 m:	6
under 914 m:	1 (2013)
Airports - with unpaved runways:	36
1,524 to 2,437 m:	1
914 to 1,523 m:	6
under 914 m:	29 (2013)
Railways:	59 km
Country comparison to the world:	World Ranking # 129
narrow gauge:	59 km 0.762-m gauge (2008)

Roadways:	10,844 km
country comparison to the world:	World Ranking # 132
paved:	4,952 km
unpaved:	5,892 km (2010)
(Central intelligence agency, 2014)	

Marketing to Buyers in Nepal

Nepal is under-developed and among one of the poorest countries in the world. Over twenty five percent of its population is living below the poverty line. Agriculture constitutes seventy percent of the economy and provides a large portion of the livelihood of the population (Central Intelligence Agency, 2014).

Consequently, if a product could enhance the income level of the population while enhancing the revenues of the country it would be hugely beneficial and attractive for the Government of Nepal to approve the import of such a product.

Given the lack of transportation of Nepal's infrastructure, marketing to the Government's Department of Agriculture and its agents should yield better results and is preferable to a marketing campaign directed at local producers (Central intelligence agency, 2014). The question we should focus our attention to is determining what does Nepal's Department of Agriculture need? What are their current objectives and priorities? How does Bioprotec CAF fit within the scope of these government objectives to address the needs of their constituencies?

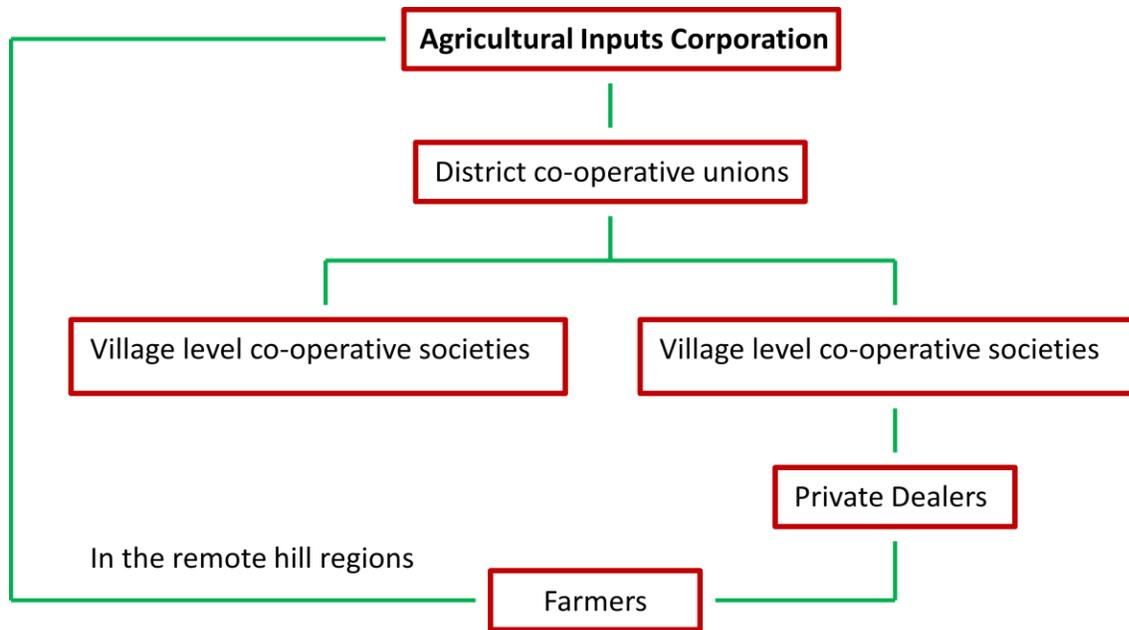
A 2009 article from the Nepali Times provides a clue. The Nepali Department of Agriculture is encouraging local producers to grow organic produce as these products command a premium price in the open market. Jumla producers are a case in point as they happen to be in one of the best orchard area of the country for quality organic apple production (Nepali times, 2009).

Given its mountainous terrain, large scale aerial crop dusting is not feasible, dangerous and requires a product that can be applied locally (Szondy, 2013). Bioprotec CAF being an organic insecticide should squarely help the Nepali government achieve its goal to help increase the quality and yield of its poorest regions.

Distribution Issues of Agricultural Inputs to Hill Farmers

The Agricultural Inputs Corporation (AIC) was established in 1965. Their mandate is to “procure and distribute high quality and improved agricultural inputs (fertilizers, seeds, agro-chemicals and implements) at a reasonable price across the country”. AIC receives subsidies three times per year from Nepal’s Ministry of Agriculture and Cooperatives to advance the government agricultural initiatives. Moreover, they have a dealer network for distribution to the regions. They know the infrastructures and transportation limitations, challenges and needs of the local producers. Their contacts and representation span across 1378 cooperatives and cooperative shops (Agriculture inputs company LTD, n.d.).

Most importantly, they are also the sole import and distribution agency for handling pesticides, fertilizers, other necessary commodities and farming equipment.



http://pdf.usaid.gov/pdf_docs/PNAAT925.pdf

If AIC can be convinced of the benefit of using a product such as Bioprotec CAF, they would be a powerful internal champion and ally in convincing Nepal’s Ministry of Agriculture to subsidize the procurement and distribution of AEF Global’s flagship organic product. The marketing strategy should highlight the following benefits for all participants namely:

- Increasing the yield and crop outputs,
- Improving the quality of the local produce,
- Reducing the reliance on imported fruits,
- Reducing poverty,
- Improving the standards of living of local area farmers and,
- Fulfilling other government mandates.

The second portion of the marketing strategy should entail lobbying initiatives with various organizations whose mandate are among, but not limited to, the following:

- Stimulate the manufacturing growth in Canada
- Encourage “Research and Development” locally
- Promote Canadian exports abroad
- Assist under-developed countries to improve their own domestic production, especially when using products manufactured in Canada
- Improve the lifestyle of people living in poverty.

Such a two-tier push-pull strategy should go a long way in facilitating import requirements to Nepal while streamlining and accelerating any administrative requirements and compliance.

Overseas Transportation Issues to Nepal

Using an International container shipping service such as A1 Freight Forwarding, we can estimate the cost of shipping a 20 foot container to Nepal.



Via Container Shipping to Chittagong, Bangladesh

<http://www.a1freightforwarding.com/>



A1 Freight Forwarding Inc.
171 Main Street South, Unit 6D, Newmarket, ON L3Y 3Y9, Canada
Tel.: (800) 280-0277 info@a1freightforwarding.com
Fax: (905) 581-0180 www.a1freightforwarding.com

QUOTE # 86876

OCEAN FREIGHT EXPORT (FULL CONTAINER LOAD)
COMMODITY: Pesticides
CONTAINER: 20' standard
CARGO TYPE: Commercial cargo

ORIGIN: Montreal CY (Container Yard)
DESTINATION: Chittagong - Bangladesh CY (Container Yard)

OCEAN FREIGHT	3466.00
PRE CARRIAGE FROM CY TO PORT OF LOADING	380.00
PROCESSING FEE	95.00
TRANSFER TO SHIPPING LINE	295.00
TOTAL	4236.00 \$ USD

<http://www.a1freightforwarding.com/>

However, the above quote does not include the land transportation from Chittagong, Bangladesh to Nepal. Notwithstanding, an alternative quote provided by Sea Freight does include an approximate total cost US\$4120 of shipping a 20 foot container from Canada to Nepal.

SEA FREIGHT
calculator

HOME | GET QUOTE | BOX QUANTITY CALCULATOR

REGIONS

- » Africa
- » Australia
- » Canada
- » Europe
- » Japan
- » United States
- » World

SEA FREIGHT CANADA

Calculate the costs for shipping a container (20ft of 40ft) from or to Canada.

FCL | LCL

Seafreight Calculator

Select origin:
Canada

Select destination: Nepal Currency: DOLLAR

20 FT 4120

40 FT 5356

40 FT HQ 5624

calculator by seafreightcalculator.com (design de boer)
[Get exact quote!](#)

<http://www.seafreightcalculator.com/canada/>

Critical Summary and Recommendations

Using a SWOT approach (Strengths, Weaknesses, Opportunities and Threats) as a baseline for summarising and offering a recommendation reveals significant information not necessarily apparent when looking at the export process from a step by step micro viewpoint.

Strengths

Clearly, one of the most critical aspect from a demand standpoint is the Nepalese government's desire to improve its gross domestic product while simultaneously improve the standard of living of its citizens. As one of the world's most under-developed nation, Nepal would greatly benefit from any product which could enhance the prosperity of farmer where agriculture represent such a significant portion of the country's output (Central Intelligence Agency, 2014). Moreover, increasing the yield and crop outputs and improving the quality of the local product would reduce the reliance on imported produce (Spotlight News Magazine, 2014).

From a supply standpoint, Canada offers Nepal decades of advancement in agricultural research & development and the manufacturing capabilities to provide consumers abroad with the right product to fill their specific requirements.

Weaknesses

Located halfway around the world from Canada, distance may become a disadvantage should a neighbouring country develop competing technology and substitute products. Nepal lacking an oceanic deep water port also exacerbates distribution issues. Time, on-demand delivery and transportation costs could place Canadian firms at a disadvantage.

Opportunities

Nepal's policy makers are moving clearly in the direction that encourages organic farming (Organic mantra,n.d.). Bioprotec CAF is a leading product in this field especially relating to apples (Bioprotec CAF A, 2008). By exporting to Nepal and other countries today would provide AEF Global with a first mover advantage. Moreover, the diplomatic advancements would also clear a path for other Canadian firms to have the opportunity to tender their products and services to Nepal's various constituencies. From a Global public relation standpoint, Canada would continue to maintain its reputation as a country seeking to improve the lifestyle of people living in poverty.

Threats

Barriers to entry are always a hurdle to overcome. Lack of product knowledge, fear of the unknown and local or neighboring insecticide manufacturing producers with longstanding business relationships may object that their government import products in their space. If AEF Global does not develop a local champion in Nepal to support its products, market penetration of Bioprotec CAF may prove itself as being a challenging initiative.

Recommendations

First and foremost and prior to any sales in initiative, building relationships will prove time well spent. It is the foundation from which solid business relationships are made of. This constitutes the sale before the sale.

Area of focus:

- Developing diplomatic relationships
- Political lobbying endeavors and initiative
- Developing a board base of domestic public contacts
- Developing a board base of Nepalese public contacts
- Developing a strong presence and good relations with Nepal's AIC
- Developing a board base of association contacts in the organic development space
- Developing a board base of association that seek to help under-developed nations

Secondly, AEF Global should make itself stand-out as a leader in organic agricultural development and products, especially those initiatives what would be visible to Nepalese authorities.

Third step involve revamping the AEF Global's cooperate website to make its products marketable internationally. Documentation, press releases, marketing news and highlights should be readable in multiple languages including Nepali. Representatives of AEF Global should spend some time in Nepal's local farming communities offering their expertise, sharing knowledge and experience.

AEF Global should solidify contacts through foreign invitations to visit Canadian firms, educational institutions and trade venues etc. They should also seek to encourage research and development locally and make their presence known throughout Canadian and international agricultural academic institutions.

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