Alcan Aluminum Foil Export to Nepal

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Introduction to Nepal:

Nepal is located in East-central Asia, surrounded on three sides by India and bordered to its North by China. The modern day state of Nepal was created in the second half of the eighteenth century and was very largely due to the work of one man; Prithvi Narayan Shah, who is styled as 'The Great' by Nepali nationalists (Gellner, Pfaff-Czarnecka, & Whelpton, 1997). Nepal is completely landlocked by the Himalayas in the North and the flat plains to the South. Nepal consists of four geographic regions. The flat Tarai region to the South consisting of rich fertile soil and warm subtropical climate, the hilly region composed of terraced farming and pastures, and to the North the mountainous and Himalayan regions that are home to the famous Mount Everest (Sakai & Malla, 1981). Due to the landscape, only specialized crops can grow in each of the four geographic regions and export of the harvest has a multitude of transportation issues in the hilly regions. This is a primary reason why the Nepalese average land holding is less than one hectare and explains the high percentage of sustenance farming. Nepal is considered to be one of the poorest nations in the world with a GNI (Gross Net Income) per capita of a mere $730 US, and 25.2 percent of the population is considered below the poverty line (The World Bank Group, 2014). For the country as a whole, in 1985, 83 percent of the households were dependent on agriculture (Hrabovszky & Miyan, 1987).

Developing nations often rely on agriculture as a primary source of income or as a form of sustenance farming. Efforts of foreign aid provide short-term remedies for the nation, however in order to improve the overall economic condition, Nepal requires reconstruction from the basic and necessary to the niche industries. Even after grants to

the Nepalese Government, the budget is in deficit by an average 35 billion rupees annually (Nepal Rastra Bank Research Department, 2012). The introduction of foreign economically beneficial projects, not grants, to the Nepalese agricultural sector is the focus to positively impact the Nepalese farmers by either improvement of quality of life, direct or indirect benefits, or both. The success of these projects also hinges on their ability to learn from past attempts and integrate those lessons into their system (Sharma, 2006). The only issue once again for the success of the foreign projects is due to the location of Nepal and the remoteness of the consumer in the region.

Product Information:

Due to the lack of introduction of aluminum foil and limited research of it's impact to the communities living in Nepal requires this project to utilize pre-existing information on non-Nepalese aluminum foil uses and statistics. Also, due to the limited research conducted on the practical uses, applications and benefits of the product has caused logical inferences and ingenuity to creatively and practically form the applications of aluminum foil.

Aluminum is the second most plentiful metallic element in the world and has been commercialized by three important industrial developments benefiting growth and usage of the new metal (ASM International). Thin aluminum sheets have been extensively used as packaging and household foils to protect foods from environmental effects, however the uses of aluminum foil are limitless (Keles & Dundar, 2006). Aluminum foil was first introduced commercially when used in the world famous LifeSavers tubes and in 1911 in Toblerone Swiss chocolate packaging (The Aluminum Association, 2014). Demand for

foil was highest during the Second World War is it was used in a multitude of defense efforts for radar tracking, and it continues to be a massive proponent in the packaging industry (The Aluminum Association, 2014).

The use of cheap, efficient and multi-purpose materials in unfavorable conditions is often the method to success in situations where complex and expensive alternatives fail to meet the economic requirements. Aluminum foil is often overlooked as a tool that has a large and significant impact on small, low-income agrarian communities due to its endless uses and properties. From heat deflection and conservation to electrical repair even to household cleaning and gardening, aluminum foil is the next of kin to duct tape's versatility at a reasonable price of approximately 10 cents to $5USD for an eight meter roll depending on desired thickness and width (Alibaba, 2014). There are a few suppliers in China already therefore saving the cost of shipping finished product to Nepal that have already been established for almost ten years in the business. From the supplier, the aluminum foil can be transported in 0.25x8 meter cardboard dispenser rolls via 40 foot shipping containers via rail or truck at a maximum capacity of 30 containers per month to its destination through the main shipping port in Shanghai (Alibaba, 2014). The aluminum foil is manufactured at the Shanghai Blue Diamond Aluminium Foil Manufacturing Co. Ltd. in Shanghai, China, which receives their aluminum from Alcan Canada in the form of aluminum ingots manufactured in their Quebec smelters. It can also be purchased and transported in bulk at a price of $2500-2800 USD per ton through Sunmax once again through the Shanghai port at a minimum 100kg rolls (Alibaba, 2014). Transport in bulk saves money therefore allowing the end product to the consumer to be the best possible price. With the 10 cent per roll of regular aluminum foil including a

roughly estimated shipping and distributing cost of 5 cents per roll, the end product to the consumer would cost 15 cents USD or approximately $12.90 Nepalese rupees depending on the exchange rate. This is quite affordable and is an economically possible option for even the lower income families in Nepal.

Aluminum foil is 88 percent reflective, which is the primary reason why it is used in so many thermal insulation applications, along with its resistance to oxidization and bacteria (The Aluminum Association, 2014). Aluminum foil insulates both hot and cold. The Canadian company that will be providing the export product of aluminum ingots is Alcan Canada. Since 1902, Alcan Canada, now owned by Novelis Aluminum, employs over 65000 employees and has 9 smelters in Canada making over $50,000,000 in annual net sales (Industry Canada, 2012). Aluminum foil is made from a process of mining and refining raw bauxite into aluminum ingots and then rolling them into sheets (Made How, 2014). The process is relatively efficient, yielding approximately one ton of aluminum from every four to six tons of bauxite (Made How, 2014). The aluminum industry is progressing towards more sustainable, efficient and eco-friendly processes with innovations in technology and procedure for both economic and environmental benefit. Alcan is a world leader in both aluminum manufacture and recycling, reducing the amount of aluminum in landfills significantly.

Analysis of Export Benefits

Aluminum foil is a product that is not distributed commercially to Nepalese farmers partially due to Nepal's secluded location and the lack of introduction of the product. It can also be accessible to higher classes in Nepal and used in city restaurants and other

households- it is not restricted to income. Exporting the product only requires shipment from China (Shanghai) to Kathmandu, Nepal's capital via train. Once in Kathmandu, the product can move on to smaller distributers who then sell it to the consumer. This step of the process has yet to be refined and requires contacts from within the agricultural communities and regions to correspond with the distributers based from Kathmandu. This generates more jobs in the Nepali supply sales sector and will benefit the Nepali farmers and their families by making their work easier with this multi-use tool. Foil can be used as a simple seed incubator when made into a small box that when filled with soil and planted with the seed, it keeps the soil warm and moist preventing water evaporation due to it's waterproof and light reflecting properties. Foil can be used as a sun box for plants by evenly dispersing sunlight to plants that only receive sunlight from one side due to indoor growth or on a windowsill for example. This can be useful to Nepalese farmers by giving seedlings that needed boost and therefore increasing the success rate of planted seeds thus saving money and time. Aluminum foil can be used as a non-toxic and easy pest control from aphids to large pests such as birds or rodents when wrapped around sapling trunks or 'mulched' into the soil. (Webb, Smith, & Boswell, 1972) It was proven in a study to reduce the number of aphids by 87-97% as they were repelled by the shiny aluminum mulched into the soil (Smith, Bing, & Johnson, 1967). In another study in Beltsville, Md., reflective mulches reduced aphid borne pathogens by repelling the vectors. (Webb, Smith, & Boswell, 1972) Aluminum foil can be used to deter large animals such as deer, rabbits and birds from a crop when tied onto fences or stakes and left to flutter in the breeze with it's bright shining reflectivity in the sun. It can aid in sanitization of food by covering, cooking thoroughly and sealing food from pests and

bacteria along with being used as malleable cookware that is easily stored and mobile. Aluminum foil can also be used for ease of tasks and comfort with its paper-thin lightweight insulation and it's easy maneuverability and ductility. It can be used for household comfort when laid out in sheets underneath bedding and slept on as it conserves heat and provides a waterproof barrier to the ground. This is quite useful in the colder regions of Nepal where a warm 'foiled' bed at night may not make money, but allows for a comfortable sleep, thus improving the quality of life of the user. Aluminum foil has electrically conductive properties therefore allowing it to be used in mild electrical repairs of electronics. Aluminum foil can also be used as a shiny fishing lure (like a spoon) attracting the fish without using live baits. The possibilities and uses of aluminum foil is only restricted to the ingenuity of the mind using it, and once it has done it's duties; it can be recycled therefore allowing for another job that can make money and benefit the Nepali people. Primary and secondary production of aluminum are complementary as 62.4% of the aluminum can production was reused in 1991 by the US only, the same can be done with aluminum foil and with advancements in recycling technology, that number can only look much more appealing (ASM International). Not only will this benefit by creating an indirect job opportunity, the reuse of the foil is environmentally friendly and sustainable.

There are only a few retrieved issues with the use of aluminum foil in Nepal, one major being the issue of thin aluminum foil having an increased likelihood of acquiring pinholes, wrinkles and strip breaks (Keles & Dundar, 2006). During transportation of the foil rolls from the capital Kathmandu to the consumer, handling of the rolls must be carefully observed. If the rolls experience trauma on a bumpy road or mishandling for

example, causing the container to punch a rip or hole into the roll it will void the waterproofness of any sheets being used off of that roll and cause issues when unrolling the foil. These issues are easily counteracted with education of roll handling and the size of the rolls being shipped. The rolls can be either transported in 100kg rolls or much smaller and lighter rolls that weigh less than a kilogram depending on the consumer demands (Alibaba, 2014). All in all, aluminum foil is an economically viable option that benefits both Canadian industry and the Nepalese people while being used as a non-toxic and plentiful multi use tool.

Competition

Nepal is located next door to China, one of the world's greatest producers of manufactured goods. There are a multitude of foreign aluminum foil producers that do not receive their aluminum ingots from the Alcan Quebec smelters, which manufacture their foil in China (Alibaba, 2014). The only issue that arises for China and Nepal is the increased production of the foil that either of the two manufacturing companies will have can cause other companies to begin to seek export of their foil to Nepal due to the increase in demand. The potential increase in foil production can directly benefit three countries; Canada, Nepal and China along with their connected suppliers and aluminum mines along with creating more jobs in the industry. If this project is successful in Nepal, other developing countries can join in on the foil bandwagon and also experience the success and aid of the product.

Critical Summary and Recommendations for Future

The export of aluminum foil is an economically viable option that benefits many countries that are involved in the production of the product. The issues surrounding the manufacture and dispersal of the product are far outweighed by the success that the product will have in Nepal. Nepal unfortunately cannot supply itself with aluminum foil due to it not having any manufacturers within it's borders, however importation of the product does not directly benefit the Nepalese economy by it being self sufficient in the product manufacture, yet it benefits many other industries in Nepal mainly agricultural that use the foil for higher production and/or ease of tasks which in turn indirectly benefits the economy. Some future recommendations to ease and improve the project's effectiveness are advertisement directly to the consumer. Once again due to the secluded geography of Nepal and the consumer, increased communication with them for feedback and suggestions on the product and its entities would be beneficial to both the exporters here in Canada and to the Nepalese consumers. To add on, trade barriers and tariffs on the product can be more thoroughly researched and established to allow for a more accurate quote on the end product's price. Opening up the market for foil in Nepal will allow for the introduction of other aluminum export products and potentially set up more trade creating more exports of manufactured Nepalese goods such as textiles and agricultural commodities. In conclusion, aluminum foil is and excellent product that will benefit both Nepal and Canada along with China by creating jobs and helping Nepalese farmers and households one sheet at a time.

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