

Investigation of Floricultural Trade Possibilities between Canada and Nepal

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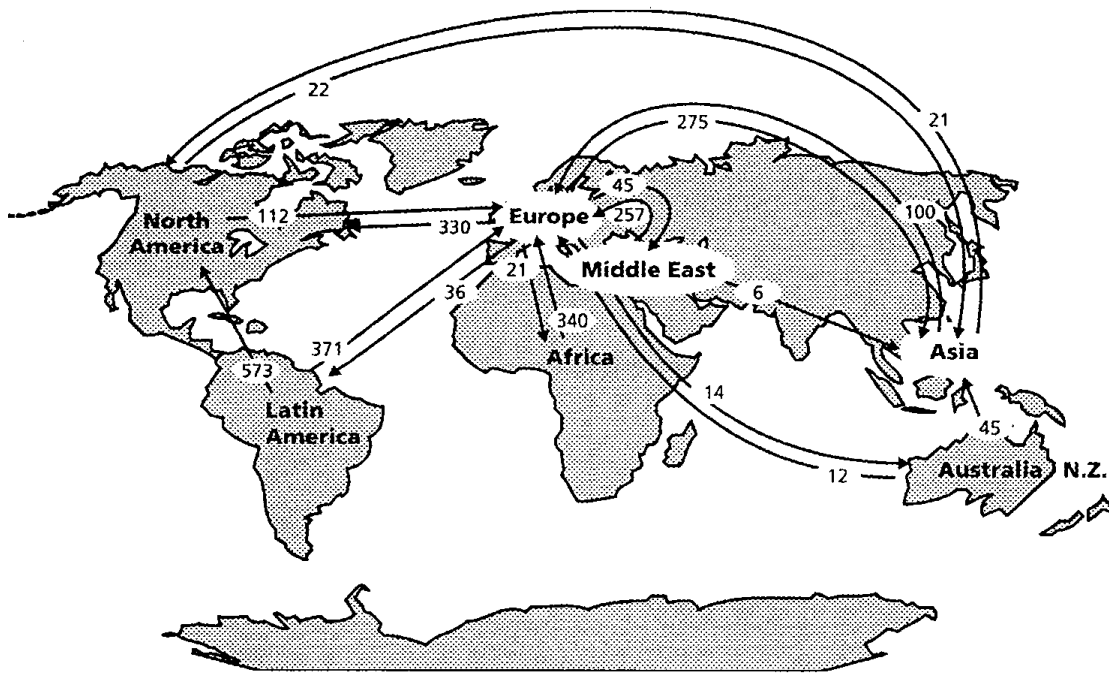
Roses have enchanted humanity since the days of the ancients and have been cultivated around the world (Pal, 1991). The wealthy of the Roman Empire were said to commonly cover the floors of their homes with multiple inches of rose petals for parties (Tuyl et al. 2014). Today rose plants are grown for their cut flowers as well as for rose water, rose-oil, and numerous other health and beauty products (Pal, 1991). The floriculture industry as a whole has been rapidly growing over the past century to its present state as a dynamic, globalized industry worth well over \$30 billion (De Groot, 1995). The aim of this paper is twofold—the first part will investigate floriculture specifically rose production both worldwide and within Canada and examine one of the top rose propagating nurseries in Ontario along with its products. The second part of this paper will examine the possibility of Rosa Aus Eglantyne plants being exported from Canada to Nepal where they can be cultivated against the walls of terraced fields, to produce cut flowers as a source of additional income thus bringing profit to agriculturalists in both nations.

Part 1: The Floriculture Industry Worldwide and specifically in Canada

Though it has the appearance of a niche agricultural offshoot the worldwide floriculture industry is large, lucrative and far from ephemeral. The industry did not just spring up—as early as the 1600's the Netherlands was growing flowering plants in greenhouses and exporting them to England and Germany (Tuyl et al. 2014). Additionally Japan has been commercially producing carnation flowers for centuries mainly to supply religious and ceremonial needs (Tuyl et al. 2014). Until only decades ago these countries remained the major production centres but now Israel, South America and East Africa are also major areas of floricultural production (De Groot, 1998). Meanwhile demand has also spread and is especially increasing in Asia where rising incomes coincide with cultures that place a high value on flowers (De Groot, 1998).

Below is a table of the flow of cut flowers around the world in 1996. The Floriculture industry is also fairly large—as of 2013 there were 530,000 hectares being used for production of cut flowers and potted plants worldwide (Cassaniti et al. 2013). In monetary terms even back in 1995 the industry was worth 31 billion dollars and this figure must have grown substantially over the last two decades (De Groot, 1998). Certainly the floriculture industry has no small significance.

Figure 6.2. External trade *) of cut flowers 1996 (in SFR millions)



*) Most important countries and flows.

Source: AIPH statistics, 1997 (1 dollar= 1.23 sfr, 1995).

(Map is from De Groot et al. 1998.)

Though Canada is not one of the major floriculture producers worldwide, this sector remains of importance to the nation. Sixteen years ago the Canadian floriculture industry was valued at \$904 million CAD (Miller, 2001). To give a more recent figure, Canadian floricultural farm cash receipts in 2013 totalled \$1.09 billion CAD (Statistics Canada, 2014a). In 2011 there

were 2,278 floricultural farms in Canada (Statistics Canada, 2014b). Of the provinces, Ontario has the greatest share in this industry—nearly 45% in 2004 (Reid et al. 2005). Correspondingly Ontario dominates in exports to the U.S. (Reid et al. 2009). 9,500 people of mainly Dutch and Danish background were employed by Ontario's floriculture industry in 2004 (Reid et al. 2005). Southern Ontario's strategic location within 12 hours by road of half of the U.S. urban population is cited as one of the major sources of its success in floriculture (Reid et al. 2005). Clearly the floriculture industry is quite important to Canada and especially to Ontario.

St. Catherine's, Ontario based J.C. Bakker and Sons Limited Wholesale Nurseries is an exemplar company in Ontario's floriculture industry. This nursery is the top rose propagator in Ontario and makes frequent exports to the U.S. (Grobe, 2014). According to its website, this nursery employs 45 full-time personnel as well as 80 or more workers seasonally (J.C. Bakker Nurseries, 2014b). The company also supplies roses to many garden centres across Ontario (Grobe, 2014). J.C. Bakker Nurseries supplies these roses in two main forms—either as bare root plants, which take up less space and are bagged in bundles of 5-6 plants, or in one and two gallon pots which take much more space (J.C. Bakker Nurseries, 2014a). The bare root plants are generally shipped in early March and must be transported in climate controlled trucks which prevent their freezing or overheating (J.C. Bakker Nurseries, 2014a). The nursery produces many varieties of roses but one which stands out in particular for its fragrance and cutting flower production is the Rosa Aus Eglantyne (J.C. Bakker Nurseries, 2014b).

The Rosa Aus Eglantyne is an ideal and useful rose. It is one of the English Old Rose hybrids developed by David Austin in the 1990's. This group weds the beauty of the old English varieties with the workability of the Modern varieties. The Eglantyne plant is notable for its upright growth. It was fascinatingly named after Eglantyne Jebb the founder of the Save the

Children Fund (Austin, 2012). The plants have a strong tea fragrance and large pink flowers (J.C. Bakker Nurseries, 2014b). J.C. Bakker and Sons Ltd. Nurseries sells these plants in the bare root form for \$3.50 CAD and in one and two gallon pots for \$10.10 and \$10.75 CAD respectively (J.C. Bakker Nurseries, 2014b). This J.C. Bakker Nurseries product stands has the unique attributes of a plant which might be valued and used around the world.

This first part of the study displayed three major realities. First it was shown that the worldwide floriculture industry has existed for centuries, is economically significant and has an expanding market. Second, it was seen that the Ontario floriculture industry has a noteworthy place in the region's economy and creates valuable jobs. Finally J.C. Bakker and Sons Ltd. Nurseries was displayed as a prime example of a nursery in Ontario's Floriculture industry and the Rosa Aus Eglantyne was exhibited as one of its desirable products. These points together indicate that now is a good time to invest in the floriculture industry and give examples of a company and one of its products which might be invested in not only in a monetary sense but also in the area of economic stimulus and trade partnerships by governments.

Part 2: The Export of Rosa Aus Eglantyne Plants from Ontario to Nepal

In light of the findings of Part 1 Canada might look for nations where its floriculture products would be marketable. Nepal is a country that could greatly benefit through the import of Rosa Aus Eglantyne plants from Ontario. This mountainous nation is famous for being home to the highest of all peaks—Mount Everest—but there is much more to be found there than snowy pinnacles. Nepal's borders also encompass mild-weathered hill regions and hot subtropical plains (Khanal, 2014). As a developing country 30% of Nepal's GDP is agriculture based and much of this agriculture is subsistence centred—that is to say farmers focus on

producing a complete diet for their family from their land instead of growing a cash crop (Khanal, 2014). Furthermore, the land has been subdivided between siblings for generations so that today the average farmer has less than two hectares to grow crops on (Khanal, 2014). This has made farmland a precious commodity usually selling for \$100,000 CAD per hectare (Khanal, 2014). Another major economic sector of the nation is tourism. In 2012 377,043 tourists entered the country by air alone and this figure is on the rise (Welcome Nepal, 2013). This sector, understandably, includes a robust hotel industry which in turn creates a significant market for cut flowers. In Nepal the ideal crossroads of good climate, entrepreneurial farmers, and a growing market have combined to cultivate a budding floriculture industry.

Nepal's floriculture industry is only in its early stages but it is growing at 10-15% per year (Gauchan et al. 2009). The Floriculture Association of Nepal was established in 1992 and has been working to develop the industry ever since (Gauchan et al. 2009). It opened a wholesale market in Kathmandu in 1998 (Gauchan et al. 2009). However, the industry is far from meeting national needs. Nepal exported a meagre 13,000 Nepali Rupees (NPR) worth of cut flowers in the 2006/07 fiscal year but imported 167,000 NPR worth (Gauchan et al. 2009). Both these figures are tiny because the industry is mostly contained within Nepal at present. The estimated total turnover in the industry in 2006 was 230 million NPR which is actually quite substantial (Poudel, 2007). The two major rose varieties being cultivated for cutting in Nepal are known as the Local Rose and the Dutch Rose (Gauchan et al. 2009). In 2008 the former had a wholesale price of 4 NPR and retail price of 10 NPR while the latter had a wholesale price of 7 NPR and retail price of 20 NPR (Gauchan et al. 2009). The industry is geographically centred on Kathmandu because as the capital it is home to a higher number of hotels, wealthy Nepalese, and wealthy foreigners, as well as banks and other institutions (Gauchan et al. 2014). One last

important fact about the industry is that 60% of the workers it employs are women (Gauchan et al. 2014). To sum up Nepal's floriculture sector is a dynamic industry with substantial room for growth, opportunity Nepali entrepreneurs and benefit for Nepali women.

Herein lies the opportunity for Nepali subsistence farmers in the hill region. Those with farms surrounding major tourist destinations can grow a small number of roses to sell to nearby hotels. This could be an important supplement to their income. Market-wise this would fill an existing gap and would provide competition for full scale cut flower producers thereby pushing them to increase their exports. A similar venture is being developed in the hill regions of India—so that low cost floriculture might be carried out surrounding the tourist destinations of Mussoorie, Dehradun, Nainital and Rishikesh to fulfil their cut-flower needs (Ranjan et al. 2013). Nepali subsistence farmers in the hill region, however, have minimal space and must be careful with their use of it. There is one significant unused space on these farms. Nepali farmers transform the steep hillsides into arable land by building it into steps or terraces which are intensely cultivated (Khanal, 2014). However, the vertical space between these terraces remains unused (Raizada, 2014). It was in this consideration that Manish Raizada conceived the possibility of Nepali farmers cultivating climbing roses against the walls between their terraced fields (Raizada, 2014). Further investigation, however, found that climbing rose plants are never grown with the intent of harvesting cut flowers because they produce undesirable flower clusters with short stems (J.C. Bakker Nurseries, 2014). Thus, though climbing roses would make wonderful use of the vertical space between terraced fields their produce would likely be of little value. Perhaps the desire for long stems is not as strong in Nepal yet this is unlikely. The possibility remains, however, for Nepali farmers to grow bush style rose plants in order to supplement their income. These plants could still be planted against the terrace walls and tied

and trimmed so as to make use of the space without encroaching overmuch into the field. The Rosa AUS Eglantyne would be ideal for such cultivation. As already mentioned this plant produces many exquisite pink blooms and grows to over 3 feet in height (Austin, 2012, p. 26). That this plant is cultivated and exported by J.C. Bakker Nurseries in Ontario, Canada has already been established (J.C. Bakker Nurseries, 2014). This same plant could be exported from Canada to Nepal thereby profiting both nations.

Cost Analysis

An extensive analysis of the workings of this trade possibility and its economic feasibility has been carried out. The plants would be bought as bare root stock from J.C. Bakker nurseries for \$3.50 (all figures in this paragraph with a dollar sign are in Canadian dollars) per plant (J.C. Bakker Nurseries, 2014). A first shipment of around 500 hundred plants would be ideal to test the market. These plants would be airfreighted from Toronto Pearson International Airport to Tribhuvan International airport in Kathmandu. A quote from A1 Freight Forwarding gave a cost per kilogram of \$3.15 for this journey (A1 Freight Forwarding, 2014). Due to their bulkiness it was assumed that 10 plants would require one kg worth of space. The cost of climate controlled shipping that bare root stock require was not available, however, one would imagine it to be roughly double the normal price bringing the cost to \$6.30 per kg. Adding \$4.00 to this to account for transport to and from the airport brings the total to \$10.30 per kg which number can be doubled to include all taxes, fees, and any other expenses. Dividing this number by ten—the number of plants estimated to weigh one kg—finds the transport cost of one plant to be \$2.06 adding \$3.50—the cost per plant at J.C. Bakker Nurseries—gives \$5.56 as the cost of one bare root Eglantyne rose after arriving in Nepal. These plants might be sold at the Floriculture Association of Nepal's wholesale market for \$6.00. Having bought the roses Nepali farmers

could cultivate them against the walls between their terraced fields or in other available space. As already mentioned the retail price of a single Dutch rose in Nepal is 20 NPR (Gauchan et al. 2009). Considering that the Eglantyne is a rarer, fuller variety, farmers should be able to fetch 25 NPR per stick from nearby hotels. As of November 20, 2014 1 NPR=\$0.1134 CAD (Currency Exchange, 2014) therefore 25 NPR equal \$0.284 CAD. Thus it would take the sale of 22 roses to completely cover the cost for which the plant was bought. Imagining that this small number of roses could be produced within 2 years the farmer's investment would be covered from that point on and if the plant produced only 50 marketable roses each subsequent year then each plant would provide 1250 NPR per year. This is a really tiny bit of money but for a Nepali subsistence farmer it could make a real difference. Moreover because the roses provide cash and not food they may allow subsistence farmers to buy important items that would otherwise be forgone like winter clothes, new shoes, or medicines. This export would also increase J.C. Bakker Nurseries sales and could, if continued, become a significant source of revenue, perhaps even to the extent of additional job creation. This cost analysis has shown that even with extensive allowance for extra expenses and low production the export of Eglantyne roses from Canada to Nepal is feasible and beneficial.

There remains a need for experimentation with the roses. Also investigation of alternative rose products could be beneficial. It is possible that Eglantyne roses would make poor use of the space against terraced field walls. To determine if this is the case real live experimentation is needed. Analysis should also be carried out of the productivity and speed of maturation of Rosa AUS Eglantyne plants. Further research which would be very valuable to Nepal could investigate the alternate uses of rose plants—which are many. Rose hips have historically been employed in the creation of rose hip syrup which is extremely high in Vitamin

C and thus may be very beneficial for Nepali farmers (Pal, 1991). Moreover, a simple process can transfer the aroma of roses into common vegetable oils; the resulting product is used as a type of hair oil throughout India (Pal, 1991). Roses can also be processed into syrups and jellies which are also high in vitamin C and are already consumed in South Asia as health foods (Pal, 1991). Finally, with a larger investment to allow for processing equipment, attar of roses which is the essential oil derived from roses could be produced. Attar of roses is a costly ingredient of many perfumes and Liqueurs (Pal, 1991). Clearly there is room for much more research though a substantial groundwork has been laid.

More detailed analysis is also required on the issue of competition. China or India may, as with other products, be able to provide rose plants to Nepali farmers for much a much lower price. A search on Alibaba.com found one Chinese business selling bare root roses for as little as \$0.40 USD per plant (Alibaba, 2014). If these plants were being exported to Nepal they could seriously undercut Canadian roses. However, it is expected that Eglantyne plants would be valued for their rarity and country of origin. Research and time would be required to show that this is the case. Certainly more analysis is needed but thus far this trade opportunity holds promise. If such a trade does prove profitable in Nepal it might be expanded to other Himalayan nations such as India and Pakistan.

The second part of this paper provides substantial food for thought to both the Canadian and the Nepali. The nation of Nepal was introduced and found to have an ideal climate and market for floriculture. Its floriculture industry was shown to be large yet still not large enough to fulfil the county's needs or begin to tap its export potential. It was suggested that rose plants produced by J.C. Bakker and Sons Ltd. Nurseries in Ontario, Canada could be exported to Nepal where Nepali subsistence farmers might cultivate them to produce cut flowers which could be

sold to nearby hotels. A detailed cost analysis of this entire process displayed that it was fairly feasible. It was noted that further research of the Nepali flower market as well as of the alternate uses of roses would be beneficial. Finally the discovery was made that significant competition exists in this market for example from China. However, the case was made that Canadian products would hold their value and desirability in Nepal because of their rarity and quality. It is not entirely clear whether the export of Rosa AUS Eglantyne from Canada to Nepal would be profitable. What is clear is that Canada should investigate this and other floricultural export possibilities while Nepal should examine opportunities to help subsistence farmers get a share in its floriculture industry which it should continue to build up and broaden as a whole.

Conclusion

This study has exposed one major point and several key sub-points. It has been clearly shown that the worldwide floriculture industry has economic significance and further that the floriculture industries of Ontario, Canada and the nation of Nepal are valuable and hold further potential. In light of this the possibility of floricultural trade between the nations was examined. It was found that this trade would be economically feasible though Chinese competition may undercut it. It can be concluded that Canada and Nepal should both continue building up their floriculture industries through whichever means possible be it exportation, importation, or getting subsistence farmers involved in the industry. These steps whether small or large have the potential to improve the quality of life agriculturalists in both nations.

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