

## **Export of T-handles for Spades and Other Hand Tools**

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PART I: Information regarding Canadian T-handled for spades and other hand tools and hand tools in general

### i) Introduction of T-handled spades and other hand tools

Manual labour is an essential part of any farming operations, especially those in developing countries. Farmers in these countries can use various low-cost hand tools to lessen the economical and physical stress of growing a wide range of crops. Spade is one such tool that can benefit Nepalese farmers who have limited access to mechanised machinery and maintenance facilities (S. Shrestha, 2012).

### ii) Design and application of T-handled for spades and other hand tools

Spades are designed for the specific task of lifting and moving dirt, and will be useful in different ways, such as digging and trenching when planting crops. They are also useful in slicing off sod in preparation for using an area for planting, and help in loosening soil and breaking up clumps of dirt (S. Shrestha, 2012). Spades also work well for scooping up quantities of dirt to place in a container.

Farmers use spades for tillage, which makes the land more fertile by breaking the upper crust of the soil so that air and sunlight can enter into the soil. To fit in the conditions of various cropping system and soil, hand tools are continuously evolving and their designs are constantly changing. (S. Shrestha, 2012).

One design that has evolved for the convenience of farmers is the T-handled. For a T-handled hand tool, it is divided into two parts: a T-shaped ash handles for users to hold the tool and a stainless steel head for performing the tasks mentioned prior such as lifting and removing dirt from the upper crust of soil (Lee Valley, 2016; S. Shrestha, 2012).



### iii) Description of Company



Lee Valley Tools Ltd. is a family-owned Canadian business that specialises in tools and gifts for woodworking and gardening (Lee Valley, 2016). The company is founded by Leonard Lee in 1978, in Ottawa, Ontario (Lee Valley, 2016). Later, the company opened more stores in different locations in Canada and started manufacturing its own line of products. Lee Valley Tools Ltd. sells woodworking and gardening tools primarily through mail order and retail; Veritas Tools is Lee Valley's manufactured arm and makes woodworking hand tools, such as hand planes and router tables (Lee Valley, 2016).

#### iv) Description of Product



<http://www.leevalley.com/en/garden/page.aspx?p=51124&cat=2,64944&ap=1>

The T-handled Sneeboer Perennial Spade and Fork sold by Canadian company Lee Valley Tools Ltd, and manufactured by Sneeboer are some hand tools that can benefit Nepalese farmers with limited access to mechanised equipment.

The Sneeboer perennial spade and fork are both high-quality products manufactured with durability in mind, and as a result it demands a premium price of approximately \$76.50 CAD per unit. However, purchasing the fork and spade set demands a discounted price of \$139 CAD per set (Lee Valley, 2016).

Both the spade and fork have 16 inches T-shaped ash handles that are short enough for farmers to handle from a kneeling or seated position, and to dig in raised beds (Lee Valley, 2016).

The spade and fork both have stainless-steel heads on the other side of the tools for performing various tasks. The 5 inches tines on the fork are slightly curved to permit an efficient levering action. The spade has a sharp 5 inches x 5-1/2 inches flat blade. Both hand tools is about 22 inches overall (Lee Valley, 2016).

*Table 1: Comparative table for perennial spade and fork*

*\* The catalog number for the Perennial Fork and Spade set is PG 396, and it is \$ 139 CAD per set.*

Name of product	Perennial Fork (A in the picture)	Perennial Spade (B in the picture)
Price	\$ 76.50 CAD per unit	\$ 76.50 CAD per unit

Length	Overall ~22 inches, 16 inches T-shaped ash handles, 5 inches tines on the fork	Overall ~22 inches, 16 inches T-shaped ash handles, 5 inches x 5-1/2 inches flat blade
Weight	~ 2kg per unit	0.6 kg per unit
Design	T-shaped ash wood handle with stainless steel head fork	T-shaped ash wood handle with stainless steel head spade
Usage	For getting under bulbs and roots to pry them out	For tillage, lifting and removing dirt, Digging and trenching when planting crops
Place of origin	The Netherlands	The Netherlands
Catalog number*	PG 398	PG 400

*(Lee Valley, 2016)*

*Table 2: Contact Information*

Lee Valley Tools Ltd.	
<b>Phone</b>	1-800-267-8767 (To place an order) 1-800-267-8761 (Customer Service)
<b>Email</b>	customerservice@leevalley.com
<b>Fax</b>	1-800-513-7885
<b>Letter Mail</b>	Lee Valley Tools Ltd. P.O. Box 6295, Station J Ottawa, ON K2A 1T4

*(Lee Valley, 2016)*

v) Market opportunities and benefits to Canada

Both the stainless steel head and the T-shaped ash handle of T-handled perennial spade and T-handled perennial fork are manufactured by the company Sneeboer & Zn in the Netherlands and sold by Lee Valley Tools Ltd. (Lee Valley, 2016; Therefore, exporting the two products will generate revenue for Lee Valley Tools Ltd and the freight companies. Exporting the hand tools will also increase the Canadian total exports statistics (Trade Data Online, 2016) Purchasing the hand tools from Lee Valley Tools Co will benefit the employees in the company and increase sales which will increase employment and generate more jobs in the supply chain sector in Canada. More local transportation jobs will be created for the export the T-handled hand tools. Thus,

exporting the two products from Canada to Nepal can further improve the bilateral trade relationship with Nepal.

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*Sneeboer Perennial Fork & Spade - Lee Valley Tools.* (2016). *Leevalley.com*. Retrieved 29 November 2016, from <http://www.leevalley.com/en/garden/page.aspx?p=51124&cat=2,64944&ap=1>

## **PART II: Export Potential of Canadian T-handled spades and other hand tools to Nepal**

### i) Introduction to Nepal

Nepal is a landlocked country located in Southern Asia between China and India. It contains eight of the world's ten highest peaks including Mount Everest and Mount Kanchenjunga (CIA, 2016). Kathmandu, the country's capital, is the largest city in Nepal. Nepal is a diverse nation with an estimated population of 29 million individuals, 81.3% of which are Hindu, 9% of which are Buddhist, and 4% of which are Islam (CIA, 2016; World Meters, 2016). 44.6% of the population speaks Nepali, the country's official language (CIA, 2016).



Nepal has a total land area of 147 181 km<sup>2</sup> and is composed of three ecological regions: the terai region in the south, the mid-hills region in the centre, and the high mountains region in the north (NTNC, n.d.; FAO, 2011). The ecology, agriculture, and population densities differ in each region; the terai forms plains, the mid-hills have terraces, and the high mountains have highly steep and cold terrain (M. Raizada, Dr., lecture, September 12, 2016; NTNC, n.d.). 28.8% of the total land area in Nepal is used for agriculture (CIA, 2016).

Agriculture anchors the economy of Nepal, providing sustenance for almost 70% of the population and composing 29.4% of the



GDP (CIA, 2016). GDP per capita of Nepal is 2500 USD in 2015, which was comparatively low with countries around the world, ranking at 198 (CIA, 2016).

## ii) Intended Purchaser

The intended purchasers for the T-handled hand tools are individual smallholder Nepalese farmers because the T-handled spade and fork are relatively small and can be used by one person at a time only. There is no statistics available about the number of hand tools used in agriculture in Asia Pacific region. However, the number of hand tools

Table 1: Estimation of number of hand tools used in the countries in Asia Pacific region

SN	Country	Agricultural labour force, 2010* (in million)	No of Hand Tools (in million)
1	Bangladesh	32.10	96.30
2	India	269.74	809.22
3	Nepal	12.07	36.20
4	Pakistan	24.52	73.56
5	Sri Lanka	4.03	12.08
6	Cambodia	4.97	14.90
7	Indonesia	49.51	148.54
8	Lao PDR	2.37	7.10
9	Malaysia	1.61	4.84
10	Myanmar	18.79	56.36
11	Philippines	13.40	40.21
12	Thailand	19.30	57.91
13	Timor	0.35	1.06
14	Vietnam	29.63	88.89
15	Russian Federation	6.25	18.75
16	China	500.98	1502.93
17	DPR Korea	3.07	9.20
18	Republic of Korea	1.27	3.82
19	Papua New Guinea	2.11	6.33
		996.07	2988.20

\*FAO (2011)

[http://www.unapcaem.org/Activities%20Files/A1205\\_AS/PPT/np.pdf](http://www.unapcaem.org/Activities%20Files/A1205_AS/PPT/np.pdf)

\* Please note that the table is not in order

used is estimated based on the population of agricultural labour force and assuming each person uses at least three types of hand tools for tillage, harvesting and operations. (S. Shrestha, 2012). The estimated number of hand tools used in Nepal is 36.20 million with 12.07 million agricultural labour force, ranking 9<sup>th</sup> in 19 countries. (S. Shrestha, 2012; FAO, 2011). The market demand for hand tools in Nepal is large.

It is also estimated that 85% of the agricultural hand tools in Nepal are locally made by village blacksmiths (S. Shrestha, 2012). Another reason individual smallholder farmers are intended purchasers of the T-handled hand tools is that the skills and profession of the village blacksmiths are in extinction (S. Shrestha, 2008).

### iii) Benefits to Nepal

#### **No electricity required**

The simple T-handled hand tools are practical and versatile options for the poor and rural population of Nepal. With limited access to adopt mechanised equipment, most farm work is completed with manual labour. The spade and the fork would allow Nepalese farmers to work anywhere and anytime since no electricity is required.

#### **Easy for use and transport**

Literacy rate in Nepal for total population is 63.9% (CIA, 2016). The T-handled hand tools has the advantage of being immediately used without further training.

The T-handled hand tools are also easy for transport across the terrain in Nepal as they are in lightweight. The spade is 0.6 kg and the fork is around 2 kg (Sneeboer & Zn, 2016).

#### **Easy for storage and customer guarantees**

Both hand tools are small so they can be stored easily. Even though the spade and the fork are expensive for hand tools, Lee Valley Tools Ltd. provides a customer satisfaction guarantee: any product may be returned within three months at no cost to the customers. The company will give a full refund to customers with unsatisfactory results (Lee Valley, 2016). The manufacture company Sneeboer & Zn also gives warranty to the tools they manufactured, 2-years warranty on the wooden handles and 100-years warranty on the stainless steel part (Sneeboer & Zn, n.d.).



#### iv) Transportation of potential export

Exporting the potential products require a procedure. Firstly, customers (farmers) can place orders of the product by either giving a phone call to the company, or filling an order form and fax it to the company.

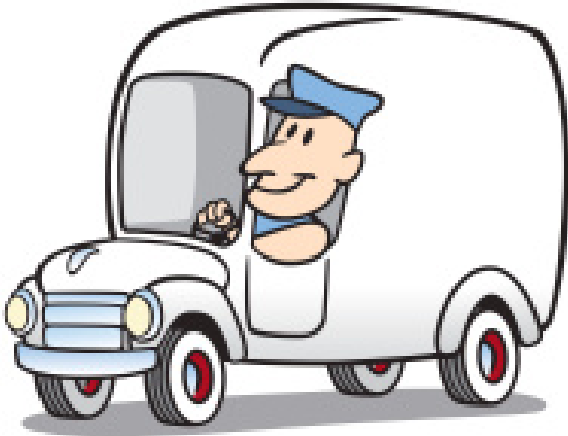
Then, Lee Valley Tools Ltd. will send an email inquiring the customers about shipping charges and shipping methods (Lee Valley, 2016). After confirming the shipping method and charges with customers, the order will leave the company's warehouse located in Ottawa, Ontario, Canada (Lee Valley, 2016).

Hence, the spades and the forks will be shipped by A-1 Freight Forwarding, a Canadian company that offers global cargo service. The order will be shipped by air because Nepal is a landlocked country. The order will first be shipped by cargo trucks from Ottawa to Toronto, the cargo company's headquarter. Thus, the order will be shipped by air freight to Kathmandu airport, Nepal's capital city (A-1 Freight Forwarding). Lastly, the order will be shipped from Kathmandu airport to the mid hill regions in Nepal by vans because the terrain is quite dangerous in the mid-hill regions in Nepal.



3.

[https://www.google.ca/search?q=airplane+cartoon&biw=1304&bih=743&source=lnms&tbn=isch&sa=X&ved=0ahUKEwit146Bv8\\_QAhWHx4MKHfY9A\\_YQ\\_AUIBigB#tbn=isch&q=driving+vans+cartoon&imgrc=\\_U\\_s18rtky5JWM%3A](https://www.google.ca/search?q=airplane+cartoon&biw=1304&bih=743&source=lnms&tbn=isch&sa=X&ved=0ahUKEwit146Bv8_QAhWHx4MKHfY9A_YQ_AUIBigB#tbn=isch&q=driving+vans+cartoon&imgrc=_U_s18rtky5JWM%3A)



4. <https://www.artstation.com/artwork/dKN21>



v) Quantities and costs associated with export

Assuming 10 farmers from the mid-hill regions each purchasing one unit of T-handled spade and one unit of T-handled fork, the total shipping cost from Toronto,

Ontario to Kathmandu,

Nepal is \$ 345.20 CAD.

The 10 sets of spade and

fork generate 1 total of \$

139 CAD x10 sets = \$1390

CAD.

The total shipping

cost is calculated by:

airfreight rate + terminal

and screening fee +

QUOTE #225643

AIR FREIGHT EMAIL ME THIS PRICE

FROM: Toronto (Our warehouse) Enter your email address

TO: Kathmandu - Nepal (Airport) **Send**

SHIPMENT TYPE: Commercial cargo

Type	Qty	Dimensions	Weight
Crate	10	13 x 57 x 3 cm	2 kg
Crate	10	12 x 22 x 3	1 kg

**AIR FREIGHT RATE** **5.84 \$ CAD / KG ALL IN**

ACTUAL WEIGHT	30.00 KG
VOLUME WEIGHT	5.03 KG
CHARGEABLE WEIGHT	30.00 KG
AIR FREIGHT	175.20
TERMINAL & SCREENING FEE	95.00
PROCESSING FEE	75.00
SURCHARGES	0.00
PICKUP CHARGES	0.00
<b>TOTAL:</b>	<b>345.20 \$ CAD</b>

The final invoice will be based on the actual weight and dimensions from the cargo receiving terminal.

processing fee + surcharges (A-1 Freight Forwarding). The airfreight rate is \$ 5.84 CAD/

kg all in. The actual weight of the 20 spades and forks are: 30 kg because 10 spades weight 0.6 kg each and rounding up to 1 kg each and 10 forks for 2 kg each. The volume weight is 5.03kg and the chargeable weight is 30 kg.

After multiplying the weight and the price per weight, the total for air freight is \$175.20 CAD. Then adding the terminal and screening fee at \$ 95 CAD and processing fee at \$ 75 CAD, the total shipping fee is \$ 345.20 CAD (A-1 Freight Forwarding).

#### vi) Export/import procedures and challenges of exporting to Nepal

##### **Export procedure in Canada**

For exporting the hand tools to Nepal, Lee Valley Tools Ltd. have to first obtain a business number issued by the Canada Revenue Agency (CRA). Then, the company has to determine whether the hand tools intended for export are subject to any restriction by the CBSA or other department of the government (Canada Border Services Agency, 2016). Hence, determine if an export declaration is required and submit one if required. After the hand tools are exported, a certificate of origin to the receiver of goods may be required (Canada Border Services Agency, 2016). Most importantly, Lee Valley Tools Ltd. should keep all the records regarding the export for several years (Canada Border Services Agency, 2016).

##### **Import procedure in Nepal**

- Importing the hand tools in Nepal also has a specific procedure for following. Except for prohibited and quantitatively restricted items, no licence is required for imports (Nepal trade information portal, 2016).

After the arriving of the cargo at Kathmandu airport, the CA will approach the TIA customs with several documents such as air waybill, certificate of insurance and Nepal customs declaration (Nepal trade information portal, 2016).

### **Challenges**

One of the challenges is that to successfully export the hand tools from Canada and import them to Nepal, the company must obtain all the documents needed and certificate if required. The second challenge is that 25.2% of the population in Nepal lives below the poverty line (Asian Development Bank, 2014). A set of T-handled spade and fork causing \$ 139 CAD might be too expensive for the farmers to purchase to use in farms. Thirdly, road safety is a major challenge in Nepal (World Nomads, 2015). A few roads in Nepal are poorly constructed around the terrain with no safety barriers. Exporting the hand tools through these poorly maintained roads could cause accidents and death of drivers while transporting the products (World Nomads, 2015).

### vii) Compare and contrast with products from other country

*A table of comparison with products from other country:*

Product	Perennial Spade	Garden Spade 18 cm with wooden handle t-shaped
Company	Lee Valley Tools Ltd.	OWCZAREK
price	\$ 76.50 CAD per unit	EUR 10-11
Length	Overall ~22 inches, 16 inches T-shaped ash handles, 5 inches x 5-1/2 inches flat blade	18cm

Weight	0.6 kg per unit	1.4kg
Design	T-shaped ash wood handle with stainless steel head spade	T-shaped ash wood handle with stainless steel head spade
Place of origin	The Netherlands	Poland
Catalog number	PG 400	B008

viii) Summary and recommendations to help potential Canadian exporters in the future

To conclude, the bilateral trade relationship between Nepal and Canada will benefit both countries in a lot of ways, such as generating profits for Canadian companies and increase employment in the transportation sector. Export of T-handled products will benefit Nepalese farmers because they have limited to no access of electricity. However, the price of the hand tools are expensive and demand a premium price that Nepalese farmer cannot afford. Shipping prices from Canada to Nepal is also too costly. The cost of importing the product from Canada to Nepal is larger than the benefits that farmers can gain. Manufactures can design more affordable products in the future for farmers.

ix) Originality of overall idea and specific products

Original idea of exporting T-handled spades was based on the lecture taught by Doctor Tejendra Chapagain. In comparison with Canada, Nepal uses 99% less electricity because it takes 10-12 hours of load shedding per day for getting access to electricity (T. Chapagain, Dr., lecture, September 16, 2016). Having limited access to electricity and mechanised equipment, an alternative way to farm is to use manual labour. Manual labour requires no electricity but only hand tools and labour. T-handled spades and forks will be beneficial to Nepalese farmers.

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