

Potential for Garlic in Nepal

Declan Lawrence

AGR2150 – Plant Agriculture and International Development

Professor: Manish Raizada TA: Jennifer Wilker

Product Description:

Allium sativum is a species that is part of the onion genus, and is more commonly known as simply Garlic¹. While the product of Garlic as a whole could work as an export in Nepal this paper aims to look more specifically at Kashmiri lahsun (Snow Mountain Garlic – SMG), a specific type of garlic native to the Himalayan mountains.

Industry status and potential (In Nepal):

Garlic's place in Nepal's economy:

The garlic industry in Nepal is very small, so small in fact that Nepal actually imports garlic from other Asian nations². The introduction of Garlic on a much larger scale could be beneficial to Nepal in a few different ways, namely it could help reduce the overwhelming import-to-export ratio in the country by reversing an import into an export, and this fact also shows that there is a possibility that the industry could flourish due to the fact other countries in the region are growing a similar product and are able to viably export it abroad³.

Industry opportunities:

Introduction of an *Allium sativum* strain would be met with limited competition in the domestic sector and the idea of the strains added health benefits could make it more marketable for foreign ventures. Countries around the world have approved claims that Garlic helps against a range of

different health defects and diseases, such as cancer, high blood sugar, and that they can act as dietary supplements⁴. The list that garlic seems to tackle goes on and on even and Garlic has “historically been used to treat aches and pains, leprosy, deafness, diarrhoea, constipation, parasitic infection and fever and to relieve stomach ache. It has also been used to lower blood pressure, food poisoning, tumours and as a mild anticoagulant”⁵. Garlic is able to help in not only one but two industries; through medical use and through nourishment. Medical benefits would also help farmers in a sustainable way to help them treat their own problems.

Growing:

It is noted that garlic needs a rather cool temperature to grow and also needs a fairly high amount of moisture to prosper, it also needs external help to combat weeds⁶. The capital city of Nepal, Kathmandu, has an average temperature throughout the year that does not rise above a high of 25 degrees Celsius and can drop to as low as 2 degrees Celsius, but these lows occur during the drier parts of the year that would not have an effect on the prime garlic growing season⁷. With an average rainfall yield between 51-132mm on average per a month between April and September there would be ample time to plant and grow the product.

Required assistance:

Production of Garlic like many other plants requires the farmer to start off with smaller yields before reaching the max surplus. Garlic due to its size however “requires relative little space compared to many vegetable crops, has few pest problems and stores well” which are all positive things⁸. However Garlic is an extremely labour intensive product to grow, it needs to be maintained for extremely long periods of time and is also susceptible to many things from weeds to viruses even though it has its own protective compound called allicin⁹.

Analysis of sustainability:

Economics (125 words):

SMG is shown to help improve metabolism and being grown at such a high altitude can help form a niche when trying to market the product¹⁰. The limited space needed to grow Garlic combined with the low cost of growing it and with the factor that it will continue to grow and develop in to bigger crop yields with every year can all be viewed as positives¹¹. In 2013 Nepal reported a \$5.53 billion dollar net loss in terms of what they imported and exported, by introducing a new import (and negating an old export) Nepal would be taking steps, albeit small ones, towards lowering this gap¹².

Environment:

It should be noted however that Nepal ranks “within the first quartile for global biodiversity importance,” meaning that there are already a wide variety of plant species present in there¹³. Importing a new kind of Garlic, SMG, could have a negative impact if it becomes wildly popularized in the country, driving other species out since Nepal is already having a problem regarding the extinction of some natural plants¹⁴. Garlic does have on its side the fact that it does not require a large area to be planted, but Nepal also suffers from a ‘watershed’ system that encourages runoff¹⁵.

Export potential:

Marketing:

Being able to label the Garlic as two separate products really opens up the doors to the market even more than what it previously would have been. SMG does not have to be contained to only one of either grocery stores or health stores, but both. Canada has had trouble producing its own domestic Garlic and with because of this Garlic has become an import there and both China and India have both stepped in as major contributors¹⁶. There are already Garlic trade routes set up through to Canada and SMG can be brought to Canada this way.

Logistics:

Another thing on the side of Garlic is the Canadian government's tariffs and taxes on the product. While the global average import duty rate on dried garlic is 15.6% Canada's rate comes in at only 6%, well below the median and something that would allow for more profit for the Nepalese farmers¹⁷. Also SMG, being dried, has a longer shelf life than normal Garlic and many other vegetable supplements people use. It could be sold in all parts of the country and although the harvest would take place at a certain time of the year the elongated shelf life would allow for there to be a continuous amount of product on the shelves¹⁸.

Potential importers:

A Permit to Import is no longer required for root crops imported from areas other than the continental United States, effective August 11th, 2015¹⁹. This means that any retailer willing to sell Garlic would have the potential to do so. Here are three more health conscious store chains that could viable retailers of the product:

1. **Whole Foods²⁰**: an American company with stores across Canada that have a healthier and more organic approach to stocking their shelves than other large chains.

207 Goode Ave
Glendale, CA
91203, United States

- 2. Shoppers Drug Mart²¹:** being a chain that sells both food and provides medical assistance this series of stores would fit in perfectly.

243 Consumers Rd
Toronto, ON
M2J 4W8

- 3. GNC²²:** a health food and supplement chain that would provide a retailer that would open the market into the ‘health nut’ market.

GNC
300 6th Avenue
Pittsburgh, PA 15222

Endnotes

¹ Paudel, K. (2015). Pharmacological effects of traditional herbal plant garlic (*Allium sativum*): A review. *J. Kathmandu Med. Coll. Journal of Kathmandu Medical College*, 3(4), 158-161. Retrieved November 24, 2015, from Nepal Journal Online.

² Bastola, U., & Sapkota, P. (2015). Causality between trade and economic growth in a least developed economy: Evidence from Nepal. *The Journal of Developing Areas*, 49(4), 197-213. Retrieved November 24, 2015, from http://muse.jhu.edu.subzero.lib.uoguelph.ca/journals/journal_of_developing_areas/v049/49.4.bastola.html

³ OEC: The Observatory of Economic Complexity. (2015). Retrieved November 24, 2015, from <http://atlas.media.mit.edu/en/>

⁴ Butt, M. S., Sultan, M. T., Butt, M. S., & Iqbal, J. (2009). Garlic: Nature's protection against physiological threats. *Critical Reviews in Food Science and Nutrition*, 49(6), 538-551. doi:10.1080/10408390802145344

⁵ Rana, S. V., Pal, R., Vaiphei, K., Sharma, S. K., & Ola, R. P. (2011). Garlic in health and disease. *Nutrition Research Reviews*, 24(1), 60-71. doi:10.1017/S0954422410000338

-
- ⁶ Allen, J. (2009, March 12). Garlic Production. Retrieved November 24, 2015, from <http://www.omafra.gov.on.ca/english/crops/facts/09-011w.htm>
- ⁷ Kathmandu Monthly Climate Average, Nepal. (2015, November 24). Retrieved November 24, 2015, from <http://www.worldweatheronline.com/Kathmandu-weather-averages/NP.aspx>
- ⁸ Growing Great Garlic (Start Farming). (2015, June 9). Retrieved November 24, 2015, from <http://extension.psu.edu/business/start-farming/news/2015/growing-great-garlic>
- ⁹ Garlic (organic) - *Allium sativum*. (2015). Retrieved November 24, 2015, from <http://www.agf.gov.bc.ca/speccrop/publications/documents/garlic.pdf>
- ¹⁰ Kozinets, A. (2015). Snow Mountain Garlic - Organic Kashmiri Lahsun. Retrieved November 24, 2015, from <http://joshihealthcare.com/product/snow-mountain-garlic/>
- ¹¹ Garlic (organic) - *Allium sativum*. (2015). Retrieved November 24, 2015, from <http://www.agf.gov.bc.ca/speccrop/publications/documents/garlic.pdf>
- ¹² OEC: The Observatory of Economic Complexity. (2015). Retrieved November 24, 2015, from <http://atlas.media.mit.edu/en/>
- ¹³ Maraseni, T., Shivakoti, G., Cockfield, G., & Apan, A. (2006). Nepalese non-timber forest products: An analysis of the equitability of profit distribution across a supply chain to india. *Small-Scale Forest Economics, Management and Policy*, 5(2), 191-206. doi:10.1007/s11842-006-0010-8
- ¹⁴ Edward, D.M. (1996), Non-timber Forest Products from Nepal: Aspects of the Trade in Medicinal and Aromatic Plants, FORSEC Monograph 1/96, Forest Research Service Centre, Ministry of Forests and Soil Conservation, Babarmahal, Katmandu, Nepal
- ¹⁵ Maraseni, T., Shivakoti, G., Cockfield, G., & Apan, A. (2006). Nepalese non-timber forest products: An analysis of the equitability of profit distribution across a supply chain to india. *Small-Scale Forest Economics, Management and Policy*, 5(2), 191-206. doi:10.1007/s11842-006-0010-8
- ¹⁶ Database, U. (2015). UN Comtrade Database. Retrieved November 24, 2015, from <http://comtrade.un.org/>
- ¹⁷ DutyCalculator - Browse Categories. (2015). Retrieved November 24, 2015, from <http://www.dutycalculator.com/hs-code-duty-rate-import-restrictions/071290/garlic-dried/0712.90.4040/0712.90.9010/6780/>
- ¹⁸ Mahajan, R., Sharma, K., Bandryal, S., Jamwal, P., & Billowria, P. (2013). IN VITRO PROPAGATION AND CRYOPRESERVATION OF SNOW MOUNTAIN GARLIC ENDEMIC TO HIMALAYAN REGION. *International Journal of Advanced Biotechnology and Research*, 4(3), 372-379. Retrieved November 24, 2015, from <http://bipublication.com/files/IJABR-V4I3-2013-12.pdf>

¹⁹ D-94-26: Phytosanitary import requirements for root crops (other than potato), mushrooms, and vegetables with attached roots for consumption or processing. (2015, August 11). Retrieved November 24, 2015, from <http://www.inspection.gc.ca/plants/plant-pests-invasive-species/directives/horticulture/d-94-26/eng/1320028609007/1320028917178>

²⁰ Canadian National Office. (2015). Retrieved November 24, 2015, from <https://www.wholefoodsmarket.com/content/canadian-national-office>

²¹ Contacting Shoppers Drug Mart. (2015). Retrieved November 24, 2015, from <http://www1.shoppersdrugmart.ca/en/contact-us>

²² GNC.COM - Ask GNC. (2015). Retrieved November 24, 2015, from http://library.gnc.com/askgnc/cust_service/otherQuestions.aspx?category=6&questionId=500&lang=en