



# Export Potential of Fresh Vegetables to India and Other Countries

Vegetable production is increasing every year as there are high returns on investment compared to other cereals and crops.

Nepal's vegetable cultivation area has been steadily on the rise as farmers are increasingly finding out that the product offers better returns. Its cultivation area jumped by 40 per cent between 2005 and 2015 (MOAD, 2015). Vegetables have higher commercialization rates—30 to 50 per cent higher—than maize and fruits. They also have a higher cost benefit ratio of 1:3 compared with 1:1.5 for cereals (Bhandari et al.). What is even more noteworthy is that vegetables, especially off-season varieties, have emerged as effective means of reducing poverty. This is because their demand is increasing and they are fetching higher prices.

Vegetables have a high potential for market growth not only in Nepal but also across the border in India. Of late, off-season vegetable is being recognized as a major agriculture commodity that holds the comparative advantage for export to India (HVAP, 2011). Between July and September, the agro-climatic conditions in the Tarai plains of Nepal and India become unsuitable for vegetable cultivation. This is due to water logging and flooding brought about by the monsoon. The production of major vegetable crops, such as cauliflower, cabbage, and cucurbits is badly affected by these conditions.

However, Nepal's geographic features are varied. There are hilly and mountainous regions as well. The conditions there are suitable for many kinds of vegetables to be grown even during the rainy summer, right up to the autumn. This potential can be exploited and a new export market opened up for Nepalese farmers.

This policy brief presents the findings of a research undertaken to identify the issues and potential of fresh vegetable production in Nepal and their exports through the major customs points along the southern plains to India and other markets. Attempts were made to uncover the obstacles faced by farmers and vegetable traders. Both the demand and supply sides were studied with a particular focus on the export constraints facing fresh vegetables.

## Status of Vegetable Export and Import

Vegetable trade in Nepal is dominated by imports. According to Tables 1 and 2, vegetable imports were much higher than exports over the three years taken up for the study. Exports are, in fact, negligible. The customs at Kakarbhitta showed large cross-border vegetable transactions. Birgunj Customs, which records even smallest quantity of vegetables being taken across border, nearly equalled Kakarbhitta in transactions during 2013/14 and surpassed it in 2014/15. A significant amount of vegetable export is informal as it is taken to India in small quantities on bicycles, three wheelers and manual rickshaws. Recording such informal trading is at the discretion of customs officials. Export via Kakarbhitta is notable because a farmer's cooperative at Sindhuwa Village, in Dhankuta's Parewadin Village Development Committee (VDC), has been active for the last ten years. The cooperative helps export cabbages, tomato, green chillies etc. to orphan homes and military barracks on the other side of the border.

Biratnagar Customs has seen the exports of potatoes, tomatoes, onion and garlic; occasionally, beet root and chilly. Tomatoes are being exported in miniscule quantities but imported in large quantities through this point. Potatoes were exported only in 2014/2015 while they were always imported in large quantities.

Vegetable supply from Nepal's side has neither been consistent nor in substantial quantities. Monthly data from Birgunj show that the season for exporting vegetables include the months of Ashad, Shrawan, Bhadra and Asoj (from mid-July to mid-October). Even during these months imports were still high.

Nepal enjoys free access to the Indian markets for almost all the goods mentioned in the bilateral trade treaty between the two countries, if they fulfil the rules of origin criteria. Vegetables as primary agricultural products are categorized as wholly produced in Nepal and accordingly enjoy duty free access to Indian markets. Apart from customs clearance, a "no objection certificate" from the Food Import Clearance System (FICS) of the Food Safety and Standards Authority of India (FSSAI) is required. Obviously, they also need to meet plant quarantine requirements.

Despite the potential, the export scenario does not look encouraging for vegetables. Therefore, an attempt was made to analyse the issues from the demand and supply perspectives, including the market issues.

## Supply Side Issues

*Aggregate data reveals enough production and surplus:* Comparison of population's dietary requirements and current vegetable production shows that there is sufficient production to meet the demand of domestic markets as suggested in Table 3. The table analyses production, and consumption requirements including the projected growth in population for five years from 2011 to 2015.

*Inconsistency and fluctuating production:* The farmers engaged in vegetable production do not have the capacity to plan their production. This leads to over-production in some places and underproduction in others. Farmers appear interested in producing various kinds of vegetables in small quantities, not enough to cater to the need of markets.

*High production cost deterrent factor for export:* The cost of production is high in Nepal than in India, probably because of higher level of commercialization

**Table 1** Vegetables imports from various customs points (Figures in NRs)<sup>1</sup>

Fiscal Year	Bhairahawa	Biratnagar	Birgunj	Kailali	Kakarbhitta	Kanchanpur	Nepalgunj
2013/14	2,832,582,410	NA	1,017,992,375	237,604,471	984,084,467	NA	237,604,471
2014/15	3,453,072,190	NA	985,110,861	240,585,991	1,448,348,955	NA	240,585,991
2015/16	3,189,816,173	NA	452,058,984	414,629,579	NA	93,653,338	414,629,579
Average Growth Rate	7.14%		-28.67%	36.80%	47.18%		36.80%

NA: Not Available; Source: Field Survey 2016

**Table 2** Vegetables exports from various customs points (Figures in NPR)

Fiscal Year	Bhairahawa	Biratnagar	Birgunj	Kailali	Kakarbhitta	Kanchanpur	Nepalgunj
2013/14	137,307	NA	35,191,031	NA	36,381,382	NA	NA
2014/15	5,271,494	NA	77,556,660	NA	56,333,986	NA	NA
2015/16	72,350	NA	30,235,437	NA	NA	NA	NA
Average Growth Rate	-30.58%		30%		54%		

NA: Not Available; Source: Field Survey 2016

of agriculture in India, subsidies in inputs, such as, fertilizer, irrigation, energy and machinery, improved technology and extension service and higher agricultural productivity in India. But, during this field survey, Nepalese cabbages at the Siliguri market were found to be the least expensive.

*Government support programmes for vegetable production has some inherent deficiency:* The implementation of programmes like the Youth Targeted Programme to increase production of vegetables has not been effective. This output based support programme has failed to reach the actual target group. Production is not linked with export and marketing, often leading to loss of the produces.

*Unchecked flow of low quality Indian vegetables:* Indian vegetables get access to Nepalese market after a simple quarantine check and the Nepalese products are unable to compete with them in price creating an adverse impact on the production of vegetables in Nepal.

*Vegetable production expected to increase further in future:* With the government's programmes on production and various national and international non-governmental organizations supporting initiatives such as riverbed farming in the Western, Mid-Western and Far Western Regions to increase incomes of landless farmers, vegetable production is expected to increase further in the future. This will call for a proper marketing strategy.

*Ineffective enforcement of pest management:* The ineffective enforcement of integrated pest management by the government has led farmers to use chemical fertilizers, insecticides and pesticides without giving due consideration to the impact of their residues on human health. This has caused erosion of confidence amongst overseas consumers further creating hurdles in exporting these products.

## Demand Side Issues

This section explores the possibility of demand for Nepalese vegetables in various markets like Bhutan, Bangladesh, India and the Middle Eastern countries.

*India:* Indian demand for fresh vegetables can be clearly seen from the increase in vegetable imports in India every year. It has reached US\$4.02 billion in 2015/16 from US\$1.97 billion in 2011/12.

The survey showed that Nepal can export fresh vegetables to India. The quality of Nepalese vegetables, for example, "*parwal*" or pointed gourd produced in Dodhara-Chadani VDC in Kanchanpur District, were reportedly much better than Indian vegetables (less use of pesticides than in India and non-use of inedible colours, as perceived by stakeholders) and were sold at a much higher price in India. *Parwal* exports were discontinued due to "quarantine requirement". Tomatoes also used to be exported to India in large quantities which too stopped as they could not meet the sanitary and phyto-sanitary (SPS) standards.

Bicycles and rickshaws loaded with vegetables (chayote squash, cauliflower, leafy green, cabbages and tomatoes) crossing the Kakarbhitta border were recorded by the study team. The team's calculations based on two days of observation showed that such informal trade amounted to about 5,950 kg/per day on an average. This is an indication of similar scenarios at other customs points as well. The extent of informal trading indicates the presence of demand for Nepali vegetables in India.

The export of summer and winter vegetables mainly takes place during the rainy season as it is a lean season in India. Traders from neighbouring areas in India visit Nepalese wholesalers to collect vegetables during this time. The Nepalese traders pointed out that lack of storage facility to preserve vegetables meant that they have to sell all the produces immediately irrespective of prices being offered.

*Bangladesh:* Bangladesh does not have sufficient land for vegetable production. Most of it is inundated during the monsoon. For that reason, the country needs to import a huge quantity of fresh vegetables. But, normally, Bangladesh levies high tariffs (25 per cent) particularly for tomato, cabbage, lettuce, carrot and other green vegetables (all chapter 07 under HS code) attract import duty. Besides, the prevalence of non-tariff barriers also exist. Data show that

**Table 3** Vegetable production and consumption

Year	Population	Required consumption (280gms/day/person/)	Vegetable production (kg)	Surplus (kg)
2011	26,494,504	2,707,738,309	3,203,563,000	495,824,691
2012	26,875,445	2,746,670,479	3,298,816,000	552,145,521
2013	27,264,592	2,786,441,302	3,301,684,000	515,242,698
2014	27,660,775	2,826,931,205	3,421,035,000	594,103,795
2015	28,062,832	2,868,021,430	3,580,085,000	712,063,570

Sources: Population: CBS, Consumption requirement: WHO and Production: MOAD

Nepal needs to meet the national standards and food safety regulations of the importing countries and ensure a sustainable supply.

Bangladesh imported almost US\$535 million worth of fresh vegetables in 2015. The trend of importing vegetables has been increasing. The figures doubled in 2013 from 2012. From Nepal, it imported US\$23.80 million worth of vegetables in 2011. That figure declined to US\$6.5 million in 2015.

Whether declining or increasing, data shows that Nepalese leguminous products has already penetrated the Bangladeshi market and the issue is either to sustain the market or increase it. Bangladesh has been importing the product from several countries in Africa and Europe and the United States of America (USA). This shows the existing market potential for Nepalese vegetables in Bangladesh.

*Bhutan:* Bhutan as another next-door neighbour could also be a destination for Nepalese products. But the prospects for vegetable export to this country seem bleak due to similar geographical settings with similar production and small market size. Rather, Nepal has been importing potatoes from Bhutan for the last couple of years and there is no export of any kind of agricultural products to this country. Vegetable import in Bhutan is mostly from India.

*Middle East:* Domestic production in the Middle East is constrained due to lack of adequate arable land. These countries have a huge market for vegetables. A small country like Bahrain imports vegetables almost equal to what a country of the size of Bangladesh imports. Consumption of vegetables in other countries like United Arab Emirates (UAE) and Saudi Arabia is also very high.

These countries have low or no tariffs on a number of vegetable commodities. Though South Asian Association for Regional Cooperation (SAARC) countries like Pakistan and India have been supplying fresh vegetables to these countries, Nepal is yet to explore this market. Channelling efforts towards penetrating this market would surely pay off, but this would require meeting their national standards and food safety regulations, not to mention ensuring a sustained supply of quality products.

## Export Related Issues

Both the supply and demand sides look positive but marketing of vegetables is not getting the priority it deserves leading to low levels of exports.

*Little attention to marketing:* Nepal has not been marketing its vegetables well. The government's focus is only on production and there is virtually no support when it comes to linking products with international, even domestic, markets.

*Inconsistency in data collection and recording:* Collection of data related with vegetable trade is largely at the discretion of the customs officials as to what level of disaggregation they wish to execute. This has led to discrepancies, inconsistencies and inadequacy in data. The result is that policy level decisions are impacted, not to mention formulating any effective marketing strategies and plans.

*Indian authorities seldom recognise certificates issued by Nepalese quarantine offices:* Certificates provided by the Nepalese quarantine authorities are occasionally accepted by the Indian authorities. The stakeholders allege that acceptance depended mostly on whether or not there is scarcity in the Indian market. This creates a sense of uncertainty among Nepalese producers and exporters. Such arbitrariness by Indian officials stems from the lack of harmonization of standards, test and certification and lack of mutual recognition agreement between the two countries. Indian quarantine laboratories at the border are also not equipped to test vegetables. The Nepalese exporters at Gadda Chauki and Dhangadi must visit either Lucknow (UP) or Nainital (Uttarakhand), hundreds of kilometres away, for the SPS certificates. Such long distances mean longer time and higher costs.

*Cross-border connectivity and logistical difficulties:* Connectivity is a major problem for facilitating trade, particularly in the Far Western Region. Gadda Chowki and Dhangadi are the major customs points for bilateral trade with India. However, both the border posts have limited transport connectivity.

Based on the population's dietary requirements and current vegetable production, there seems to be enough to meet the demand of domestic markets.

*Lack of proper market linkages and intelligence:*

Nepalese traders do not properly understand the market dynamics. Indian traders at Siliguri Regulated Wholesale Market (SRWM) revealed that Nepalese traders never come to enquire about the market and its preferences for their products.

*Post-harvest handling is poor:*

Traders in SRWM revealed that Nepalese products are not being properly handled and treated during post-harvest processes. The traders made special mention of Nepalese cabbages which were sold off at a meagre INR 13-14/kg, compared to cabbages from Bhutan and Sikkim (INR 20-25/kg). Poor handling led to substantial losses in quality by the time the products reached Siliguri.

## Way Forward

### Short Term Measures

*Bring uniformity in data recording and management:*

The first and foremost thing that needs to be done is maintaining consistency in data collection and recording at all customs points, including informal import data. This would ensure accuracy of data for appropriate policy decisions.

*Maintain record in tonnage or volume:*

Data entry is being done mostly by value and not volume. This practice needs to be changed as analysing the data can be difficult, especially with price variations.

*Ensure acceptable quality and regular supply:*

Ensuring quality of products and consistency in their supply are key to finding markets and sustaining them. For this, products with high export potential must be identified and investments made for their development and supply. This research has indicated cabbages and squash as having such potential.

*Facilitate establishing linkages between Nepalese exporters and Indian importers:*

Substantial efforts need to be made to encourage new entrants in the exports of fresh vegetables. Market access needs facilitation and linkages established between Nepalese exporters and Indian importers.

*Incentives to export to India:*

The government provides incentives to exporters to other countries but

not to India. India is Nepal's largest trading partner with which it faces a huge trade deficit. Therefore, incentives are needed for those exporting to India as well. Fresh vegetables exporters must be included in such an incentives scheme.

*Organize border haats for agricultural goods including vegetables:*

Nepal and India may consider organizing border *haats* on both sides of the border at a regular interval to create a demand in Indian markets. Such *haats* are organised between Bangladesh and India which have proved to be very successful.

*Implement capacity development measures targeting farmers and traders:*

Capacity building exercises for farmers and traders, regarding the production and trade of fresh vegetables, need to be carried out. This will ensure quality, quantity and variety.

*Intensive and extensive training on post-harvest operations:*

Farmers require awareness programmes to address post-harvest issues like adoption of proper harvesting methods, sorting, grading, packaging, storage and labelling. This should be followed by support programmes like development of cold warehouses, subsidy for transportation and in supply of appropriate packaging materials.

*Help in organizing farmers and traders into collectives:*

Vegetable farmers and traders are not organised, like producers and traders of tea, coffee, ginger and medicinal herbs. They need to organize through associations to push their collective interests.

*Expedite the border clearance process:*

Quick customs clearance is crucial for exports of fresh vegetables. Both governments should consider reorganizing and re-invigorating the border level trade facilitation mechanism.

### Long Term Measures

*Focus on marketing, continued support to production:*

All relevant value chain actors need to develop a complete strategy from production to marketing so that the produce does not go to waste.

*Revise deterrent provisions of Nepal-India Treaty of Trade:*

The bilateral trade treaty between Nepal and India was renewed without any changes in October 2016. This survey has identified that a revision of the treaty is warranted. Nepalese products are unable to compete with Indian products in terms of price. The provision on reciprocal tariff concessions has caused a massive influx of Indian agricultural goods hurting Nepalese production. Nepal needs to list some of its agricultural products as import sensitive to get the leeway needed to impose tariffs on such products.

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*Enhance the capacity of Nepalese SPS labs and harmonize regional and international standards:* A comprehensive plan is necessary to strengthen and harmonize Nepal's SPS laboratories with regional and international standards in terms of provisioning equipment, test and certification capacity, human resources mobilization, co-location of facilities and improvement in the governance structure of such laboratories.

*Promote off-season vegetable production:* Off-season vegetables fetch more prices compared to their normal season counterparts. However, farmers are required to put extra effort to save the crops from adverse weather, insect pests and diseases, besides also requiring careful tending. Such farming requires poly-house technology, drip irrigation and training to farmers on off-season vegetable production.

*Promote organic production to harness the competitive edge:* Organic production has a big market potential not only in India but in overseas countries like, Qatar, UAE, South Korea and European Union member countries. Hence, Nepal needs to focus on phasing in organic vegetables, starting from Integrated Pest Management (IPM) and introduction of agricultural insurance policies, in order to tap the market potential.

*Establish effective mechanism to support Pest Risk Analysis (PRA):* Nepal should start the process of collecting data on incidence of insect pests and diseases for specific potential fruits and vegetables.

This would support vegetable export not only to India but also to other countries.

*Provide adequate logistical support:* Suitable logistics, like warehousing and transport related infrastructure, should be in place for facilitating vegetable exports. This is important as vegetables are perishable items that must reach the market within a short span of time after harvest. Exporting vegetables to countries in the Middle East would require proper logistical support at the Tribhuvan International Airport.

## Future Agenda

Apart from policy recommendations there is a role for private sector, researchers and development partners as well. The countries mentioned in the research are just indicative to show that Nepalese vegetables do have the potential to be exported. Extensive research could be carried out in order to identify other potential countries where fresh vegetables can be exported.

Similarly, research is necessary in order to identify the key products to be exported from various pockets to India and other potential countries. These products could be the ones that the government must focus on while developing pocket areas in terms of production, marketing and adoption of good agricultural practices. ■

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