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ISSUES RELATED TO PRODUCTION AND TRADE OF INDIAN APPLES FROM HIMACHAL ECONOMY PERSPECTIVE

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ABSTRACT----------
Apple cultivation is the mainstay of around three lakh families in the small hill state of Himachal Pradesh (India). After liberalized trade regime of WTO agreement, marketing of state's apple produce is facing competition from the imported apple especially from Turkey accounted for 27.25 per cent of import volumes of India, followed by Iran (17.09%), Poland (9.92%), Italy (9.85%), and Afghanistan (9.05). Apple producers of Himachal had been raising a strong voice against the rising imports of apple with a strong demand for raising import duty which is already at the highest admissible level under WTO regime. Import of varieties of apple provide better choice and competitive price to consumers but pose a tough challenge to domestic producers especially located in the mountainous regions of the country having limited alternatives to livelihood options. In this background, this paper tries to analyze the change in area under apple crop, production and its domestic and international trade over the years.
KEY WORDS*: Apples, Consumption, Himachal Pradesh, Inbound Duty, Imports, India, Livelihood, Marketing, Production, Subsidies, Tariff*----------

INTRODUCTION

Import liberalization for agricultural products under WTO regime has been a serious cause for concern amongst policy makers having primary obligation to protect domestic producers' interest. Studies suggest that the WTO has strongly promoted international trade but unevenly (Subramanium and Wei, 2007; Kurihara, 2012). Beyond the debate of Developed and developing country and small-scale and large-scale trading, mountain regions and communities are among the weaker participants being integrated into the global system (Jodha, 2000). Appearance of imported items in the market has sent alarming signals to domestic producers mainly so due to the possible threat perception. However, Indian apple producers appear not to have been adversely affected by imports because the relatively high quality and price of imported apples make them imperfect substitutes for domestic apples (Deodhar et. al., 2006). With the increasing production of new costly varieties with better standard in grading and packaging, the competitiveness may turn into a real challenge and an advantage too in a few years, if planned appropriately at this stage. Reduction in costs relating to overhead, inputs and marketing enhance the marketing margins and thereby enable domestic producers to compete with imports in a stronger way.

Apple cultivation is contributing about Rs. 360 million to Gross State Domestic Product (GSDP) (about 12%). After liberalized trade regime of WTO agreement, marketing of state's apple produce is facing competition from the imported apple from Turkey, Iran, Poland, Italy and Afghanistan. About 40-50 per cent of the country's apple market is being captured by the imported ones. Apple producers of Himachal had been raising a strong voice against the rising imports of apple with a strong demand for higher import duty. Though statesmen recognize the WTO obligations but the popular demand has got some assurances in view of challenge to the only livelihood option of farmers of hill state. Though the imports provide a better choice and competitive price to the consumers but farmers already under constraints of land and rising input costs are finding it difficult to compete with foreign producers enjoying various direct and indirect subsidies. There seems a complete helplessness as far as the provisions of inbound duty on apples under WTO agreement are concerned (already at the maximum level of 50 per cent). The presence of imported apples demonstrates an opportunity for domestic growers to increase earnings by improving quality to compete with imported apples. In this context, paper tries to examine the importance of SSM and its likely impact on imports of apples.

MATERIAL AND METHOD

This paper is primarily a case study of apple cultivation and its trade. The changes in the area under apple cultivation and its trade have been analysed over a long period of time for Himachal Pradesh in particular and India and World in general. Secondary data have been obtained from various sources. The data has been analysed with simple averages and percentages and presented through tables and diagrams.

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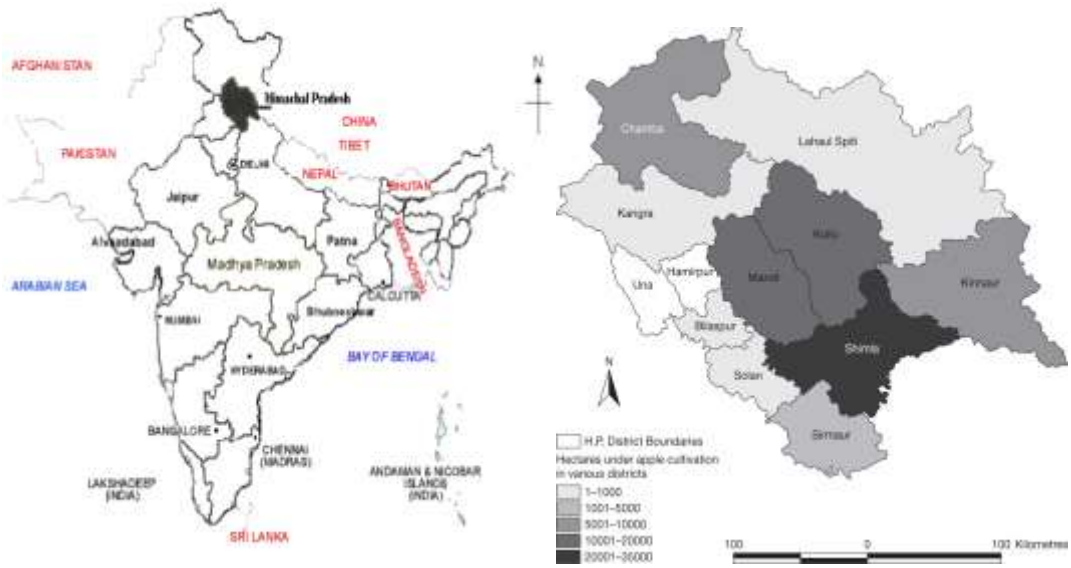

Map Source: India (NIC), Himachal Pradesh

Figure 1. Location Map of Himachal Pradesh and District-Wise Coverage of area under apple crop

Study Area

Himachal is one of the small and progressive states of India located in the north amidst Himalayas. Apple is the mainstay of economy and therefore, it is also known as the apple bowl of India. The state of Himachal Pradesh in India situated between 30º22'40" to 33º12'40" North latitude and 75º45'55" to 79º04'20" East longitude, with an altitudinal range of 350 meter to 6,975 meter amsl.

Apple cultivation and trade

In Himachal Pradesh, apple is grown in the districts of Shimla, Kullu, Sirmour, Mandi, Chamba and Kinnaur. Apple can be grown at altitudes 1,500-2,700 m. above m.s.l. in the Himalayan range which experience 1,000-1,500 hours of chilling (the no. of hours during which temperature remains at or below 7^0 C during the winter season). The temperature during the growing season is around 21-24^0 C. For optimum growth and fruiting, apple trees need 100-125 cm. of annual rainfall, evenly distributed during the growing season. Excessive rains and fog near the fruit maturity period result in poor fruit quality with improper colour development and fungal spots on its surface. Areas exposed to high velocity of winds are not desirable for apple cultivation. Loamy soils, rich in organic matter with pH 5.5 to 6.5 and having proper drainage and aeration are suitable for cultivation. Dry temperate areas are suitable for apple cultivation. The fruits produced in these areas are of high quality with high sugar content and long shelf life.

Apple is the most important temperate fruit commercially and ranks fourth among the most widely produced fruits in the world after banana, orange and grape. China is the largest apple producing country in the world. Apples originated in the Middle East more than 4000 years ago. Spreading across Europe to France, the fruit arrived in England at around the time of the Norman conquest in 1066. In India, it is mostly grown in the states of Jammu & Kashmir, Himachal Pradesh (HP), Uttaranchal, Arunachal Pradesh and Nagaland. In HP, apple is the most important crop accounting for about 90% of the total horticultural production. Apple alone constitutes about 49 per cent of the area under fruit crops and about 85 per cent of all fruit production. In addition to that apple economy provides direct and indirect link to industry and service sector, thus affecting income, investment and employment in the entire economy.

RESULTS

Dynamics of Apple Production and Trade

Total area under Horticulture in Himachal Pradesh is 2.36 lakh hectares Hectare which is 38.37 percent of total cultivable area. Apple is so far the most important fruit crop of Himachal Pradesh, which constitutes about 49 percent of the total area under fruit crops and about 85 percent of the total fruit production. Area under apple has increased from 400 hectares in 1950-51 to 3,025 hectares in 1960-61 and 1,16,300 hectares in 2025-26 (Table 1).

As far as the data on apple production is concerned, it is very erratic over the years between 2, 55000 and 9,00000 metric tonnes. The main reason attributed to this frequent and huge fluctuation is the adverse climatic conditions that interfere with the growth of apples. Drought like conditions, lack of appropriate temperature at the onset of flower, and damage by hailstorm are leading factors. This trend also influences the overall productivity statistics. When we compare the situation in state with national area under apple crop, it

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is imperative that state's share in country's apple production has remained almost static. In other words, whenever there is an increase in country's area under apple cultivation, there is almost proportionate increase in area under apple in Himachal Pradesh.

Himachal Pradesh is one of the leading apples producing state in India. Of the total area under apple production in India, H.P. alone constitutes about 45-50 percent. Over the study period, the share of Himachal has slightly gone down from about 38 percent to 34 percent. New regions in apple production such as Arunachal, Sikkim and Nagaland have also emerged but contribute too little. The state of Jammu and Kashmir has shown a drastic jump in apple cultivation where area under apple production has increased from 90 hectare to 170 hectare during 2001-02 to 2025-2026 (Table 1). In this comparison the growth in Himachal Pradesh is much slower as the area under apple production has increased from 93 hectare to 116 hectare only during the period of about 25 years. One of the highlighting points is the drastic fall in area under apple production in Uttarakhand where the area under apple production has declined almost to half level from 52 hectare to 11 hectare during this period. As far as the productivity of apple is concerned, Jammu and Kashmir and Nagaland are much ahead of other apple producing states of the country. Himachal Pradesh is at the second place with the productivity of 5.6 metric tonne in 2025-26. When we compare the change in productivity between 2001 and 2025, Himachal Pradesh has improved a lot by 1.9 to 5.6 MT per hectare; however, the productivity of J&K has remained almost stable around 10 to11 MT per hectare.

Table 1: State-wise Area, Production & Productivity of Apple during 2001-02 and 2025-26

State	2001-02			2025-26*		
	Area ('000 Ha.)	Production ('000 MT)	Productivity (MT/Ha.)	Area ('000 Ha.)	Production ('000 MT)	Productivity (MT/Ha.)
Jammu & Kashmir	90.1	909.6	10.1	170	1950	11.5
Himachal Pradesh	**92.8**	**180.6**	**1.9**	**116**	**647**	**5.6**
Uttarakhand	51.8	59.3	1.1	11.2	44.8	3.8
Arunachal Pradesh	6.7	8.5	1.3	4	7	1.8
Nagaland	0.1	0.3	3.3	0.2	0.5	2.5
Other States	--	--	--	22	120	5.5
All India	**241.6**	**1158.3**	**4.8**	**324.3**	**2768.7**	**8.5**

Source: Database of National Horticulture Board, Ministry of Agriculture, Govt. of India; Horticulture Statistics Division, DAC & FW

** 2025–26 figures are based on First Advance Estimates, state economic surveys, and recent horticulture statistics available in 2026.*

Table 2. Comparative trend of apple productivity in Himachal and India (Area in '000 Hectare, Production in '000' MT and Productivity in MT)

Year	Himachal Pradesh			India		
	Area	Production	Productivity	Area	Production	Productivity
2001–02	92.8	180.6	1.9	241.6	1158.3	4.8
2010–11	101.6	892.1	8.8	289.0	2891.0	10.0
2015–16	111.9	777.1	6.9	313.0	2521.0	8.1
2020–21	114.8	428.4	3.7	316.0	2460.0	7.8
2023–24	116.2	506.3	4.4	304.1	2625.9	8.6
2024–25	116.3	503	4.3	324.0	2625.5	8.1
2025–26*	116.3	647	5.6	324.3	2768.7	8.5

**2025–26 figures are based on First Advance Estimates, state economic surveys, and recent horticulture statistics available in 2026.*

Apple production in the country is limited to the hilly states of Jammu and Kashmir, Himachal Pradesh and Uttarakhand. While comparing the changes in apple productivity during 2004 to 2025, the data of Himachal is more volatile than the aggregate Indian data (Table 2). This indicates towards crop failures at regional level rather than at all regions of the country in a particular season. On every year under study, the productivity of apples in the country as a whole is higher than the corresponding productivity figures of Himachal Pradesh. The area under apple has increased almost by the same proportion in H.P. and the country during 2004 to 2025.

Indian Apple Industry: Share in Production and Trade

In India, Himachal Pradesh is the second largest apple producing state contributing 19.22 percent of the production after Jammu and Kashmir who contributes about 77 percent (Figure 2). Within H.P., Shimla district alone contributes 61% of the total apple production followed by 18% in Kullu District. Mandi and Kinnaur districts contribute only 8% each in the total production.

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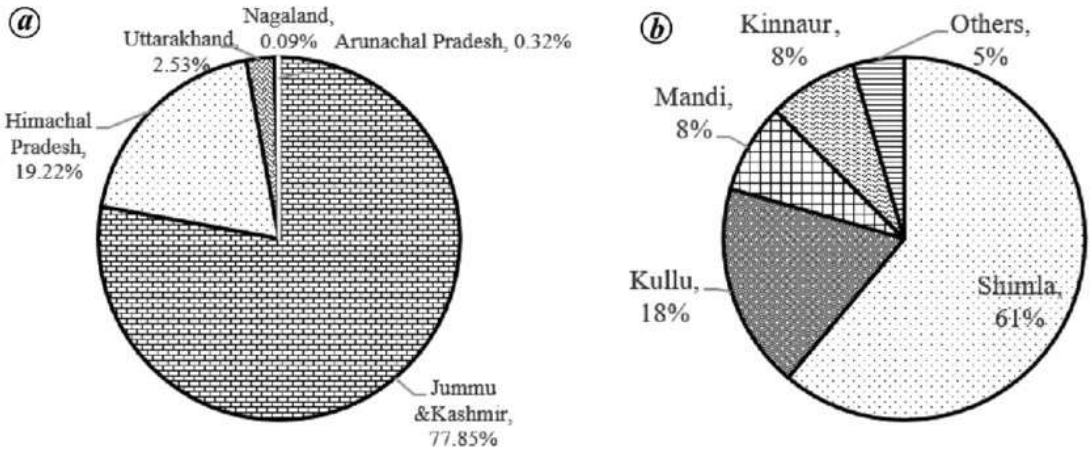

Figure 2 Leading apple producing states and districts of H.P. and their share (Source: Bharti et. al, 2023).

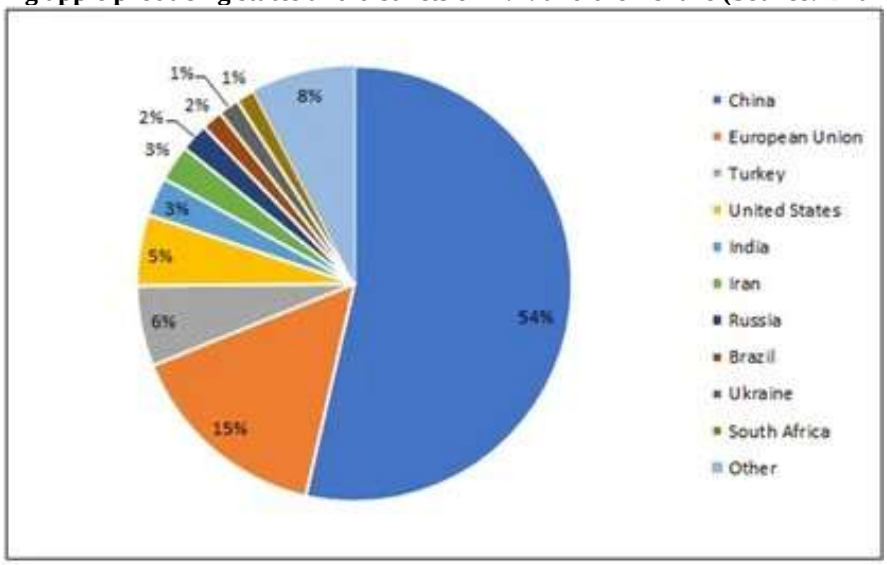

Figure 3 Leading apple producing Countries and their share (Source: Mierczak & Garus-Pakowska, 2024)

India is world's fifth largest producer of apple after China, EU, Turkey and USA (Figure 3). India's apple is mostly exported to our neighbouring countries Nepal (47.7%), Bangladesh (38.7%) and Bhutan (12%) (Figure 4).

In 2023, Turkey accounted for 27.25 per cent of import volumes of India, followed by Iran (17.09%), Poland (9.92%), Italy (9.85%), and Afghanistan (9.05). However, Market share of apple suppliers to India are volatile (Hey, 2016). Whereas, it was China who was at number one position contributing 38% of India's apple import in 2011, the USA replaced China in 2015 by contributing 54 percent of India's apple import but by 2023, the situation is altogether different.

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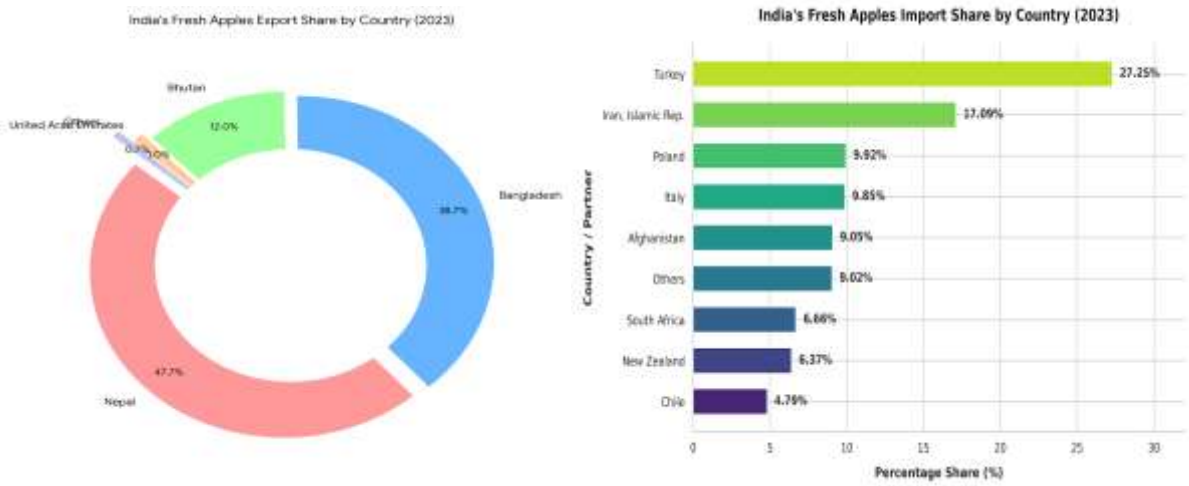

Figure 4. Leading Apple exporting countries to India and importing countries from India. (Source: WITS).

Due to good domestic demand, apple is the most heavily consumed imported fruit in India. On the total fresh fruits imported by India, apples alone constitute 74% followed by Oranges, Pears, Kiwifruit, Grapes and others with a share of 13, 8, 2, 1, 2 percent respectively (Prowse, 2013). India imports the fruit from the US, China, Chile, New Zealand, Italy, Iran and Afghanistan, among others.

Recent Developments in Apple Trade Policy

Apple producers in India's key production belts of Himachal Pradesh and Kashmir have been complaining of increased competition from imported apples for some time, and they have lobbied the government to raise apple import tariffs to protect their industry. Sensing the popular sentiments, promises were made by the top leaders to do something. As the WTO obligations cannot raise the inbound duty from already maximum level of fifty percent, therefore, alternates are being explored in terms of non-tariff measures to restrict imports. In September 2015, the Indian government placed new restrictions on the country's fast-growing apple import trade by announcing that it will only allow apples to be imported via Jawaharlal Nehru Port, also known as Nhava Sheva, Mumbai. While the Indian Ministry of Commerce and Industry had not cited any reasons behind the decision, many industry stakeholders regarded the move as a non-tariff barrier to restrict apple imports. The US authorities too had raised objections over the restrictions. Sensing the issue escalating, the government on January 13, 2016 reverted last year order and allowed inbound shipments of the fruit through sea ports and airports in Kolkata, Chennai, Mumbai and Cochin. It has also permitted imports from land port and airport in Delhi besides land borders. The move could help in increasing availability of the fruit in the domestic market and ease its prices. However, the concerns of domestic growers still remain unresolved. The competitiveness cannot be seen in isolation as benefit for market efficiency and consumer welfare but needs to be analysed in terms of livelihood option of mountainous people with tough terrain and no close alternative than apple cultivation.

Trend in export and import of apples

Apple imports have grown rapidly following the trade liberalization through removal of quantitative restrictions in 1999. Apple imports into India have grown drastically, reaching US$365.05 million in 2023 from negligible import level of US$1.27 in 1999. Strong GDP growth, rise in disposable income, health awareness, and increasing purchasing power are driving the market.

Clearly, India has a negative and increasing trade balance in apple trade throughout. The apple industry in India is struggling to compete with imported apples from China and USA. As discussed in introduction also, Apple growers in India have been demanding an increase in import tariffs on apples to protect the local industry and boost apple production domestically. To facilitate this issue, SSM is of prime importance as under WTO regime SSM allows developing countries to increase import tariff rates on some agriculture products if the products witness a sudden increase in its imports or if it falls under the "Special Products (SPs)" category.

DISCUSSION AND CONCLUSION

In Himachal Pradesh over 85 per cent people are engaged in agricultural sector that contributes about 45 per cent to the Gross State Domestic Product (GSDP). Apple cultivation contributes about Rs. 360 million to GSDP (about 12%) and therefore, is the mainstay of over 1.7 lakh families in this small hill state of India. Of the total area under fruits, apple comprises 48 percent and Production wise

apple constitute about 74 percent of the total fruit production. Due to the potential of highest rate of returns per hectare, more and more farmers have substituted the apple orchards for other crops in the region conducive for apple production in the state. The expansionary trend was so popular that people even encroached upon the forest land near villages. Himachal High Court has taken strict action against the encroachers whereby orders have been passed to cut all trees grown on encroached forest land (Khanna, 2015). The area under apple cultivation in India increased by 24% from 1.95 lakh hectare in 1991-92 to 2.42 lakh hectare in 2001-02, though production increased merely by less than 1% (i.e. from 11 to 12 lakh tones (Bera, 2015). Despite drastic rise in area and production, the productivity of apple in India has remained almost stagnant around 10 MT/ha far behind the leading apple producing countries like Italy (42.41 MT/ha), Chile (33.37 MT/ha), France (44.36 MT/ha) and the world average of 15.87 MT/ha in the year 2011 (Anon., 2013).

Rapid economic growth indicates towards a continued expansion of Indian apple demand but the high cost of domestic and imported apples when compared with other Indian fruits is still limiting apple consumption to higher income consumers. The retail prices of the imported apples remain between Rs. 250 - 350, which is almost double than the domestic fruit. Although India's apple tariff is one of the highest in the world, internal marketing margins or returns to traders over and above measured costs play a significant role in raising domestic prices and restricting apple consumption.

Therefore, increased investment and competition in the domestic supply chain together with marketing efficiency can bring down the consumer prices and enhances the marketing margins to apple producers. Some research findings also suggest that Indian apple producers appear not to have been adversely affected by imports so far because the relatively high quality and price of imported apples make them imperfect substitutes for domestic apples. Instead, the presence of imported apples demonstrates an opportunity for domestic growers to increase earnings by improving quality to compete with imported apples. All season availability of apples in the market due to imports will help in raising consumer demand and therefore, benefit domestic apple producers through enhanced demand by multiple agencies for cold storage houses. Though the voice against imported apples seemed more of a political issue till now, but the fast emergence of improved variety and high-quality apples will definitely face an increasing competition with the imported apples in coming years.

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