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Exploring India's Trade Potential with South Asian Economies

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Abstract
This research investigates India's emerging trade opportunities with neighboring South Asian countries, namely Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan, and Sri Lanka, across the decade from 2025 to 2035.We draw on two complementary forecasting approaches to build a well-rounded picture. The first relies on historical patterns in actual trade flows (imports and exports recorded from fiscal 2017–18 through 2024–25), applying compound annual growth rates (CAGRs) to project future volumes in absolute terms. This method highlights robust expansion in certain directions: Bhutan, Bangladesh and Maldives, contrasted by contraction in others like Afghanistan and Pakistan.
The second approach shifts focus to relative trade closeness, employing fixed-effects panel regression on data from 2010–2022 to link India's Logistics Performance Index (LPI) with the bilateral Trade Intensity Index (TII). We then extend these insights forward using linear trends, ARIMA modeling, and three realistic scenarios (baseline, optimistic, and pessimistic). Under baseline or more favorable assumptions, where India's LPI might climb toward 3.60- 3.80 by 2030, trade intensity stands to rise noticeably for landlocked partners.
When we bring the two perspectives together and examine each country individually, clear patterns emerge: strong alignment between volume growth and intensity gains for Bhutan, Nepal, Bangladesh, and Maldives, yet stark contrasts in geopolitically sensitive cases. This dual lens reveals considerable room for progress despite ongoing challenges. The paper concludes with targeted suggestions: prioritizing logistics upgrades, investing in cross-border connectivity, streamlining digital customs processes, and pursuing diplomatic steps to ease barriers. Under optimistic conditions, these measures could help lift overall regional trade by 70–100% by 2035, fostering more balanced and resilient economic links across South Asia.

Keywords: *Trade Potential, South Asia, CAGR Projections, Trade Intensity Index, Logistics Performance Index.*

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I. Introduction

In the dynamic landscape of global economics, international trade stands as a cornerstone for fostering growth, innovation, and cross-border collaboration. For India, the largest economies in South Asia, holds immense promise. This region, comprising nations like Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan, and Sri Lanka, offers unique advantages rooted in close geographical ties, historical connections, and economic synergies. Yet, despite these strengths, trade within South Asia remains underwhelming, accounting for just about 5% of the region's overall trade volume, a stark contrast to more integrated groups such as ASEAN, where intra-regional exchanges exceed 25%, or the European Union, which thrives on seamless internal markets.

This underperformance stems from persistent barriers, including bureaucratic hurdles, inadequate infrastructure, and varying levels of policy alignment. Trade facilitation emerges as a pivotal solution here, encompassing measures that streamline logistics, enhance customs procedures, and improve supply chain reliability. By cutting down on time and costs associated with moving goods across borders, these reforms can unlock hidden potential and stimulate bilateral engagements. A key metric in this domain is India's Logistics Performance Index (LPI), a World Bank benchmark that evaluates a country's efficiency in areas like customs clearance, infrastructure quality, and tracking capabilities. India's recent strides are noteworthy: in the 2023 assessment, it scored 3.40 on a scale of 1 to 5, climbing to 38th place among 139 nations. This marks a

significant leap from its 44th ranking in 2018 and 54th in 2014, driven by targeted initiatives such as the PM GatiShakti National Master Plan, which integrates multimodal transport networks, the National Logistics Policy aimed at reducing logistics costs to single digits, and digital platforms like the Unified Logistics Interface Platform (ULIP) for real-time data sharing.

These advancements not only bolster India's domestic competitiveness but also ripple outward, influencing its trade relations with South Asian nations. Historical data reveals a clear link between LPI enhancements and the Trade Intensity Index (TII), which quantifies how concentrated bilateral trade is relative to what might be expected based on global patterns. For instance, landlocked countries like Bhutan and Nepal have shown the most pronounced benefits, where improved logistics translate into easier access to Indian markets for their exports and vice versa. In contrast, geopolitical frictions have muted gains with Pakistan and Afghanistan, where trade volumes often fluctuate due to border disputes and security concerns. While past studies using panel data have established this positive correlation, demonstrating that a one-unit LPI rise can elevate TII by around 16 points on average, projections into the future are limited, leaving policymakers without forward guidance in an era of rapid change.

This paper seeks to bridge that void by delving into the prospective effects of trade facilitation on India's TII with South Asians partners from 2010 to 2030. Employing a fixed-effects panel regression on historical data from 2010 to 2022, we revalidate the LPI-TII nexus, accounting for country-specific variations and time trends. Building on this, time series forecasting techniques, including linear extrapolations and ARIMA models, extend insights into the next decade under three scenarios: a baseline continuation of current trends, an optimistic path with accelerated LPI growth to 3.80 by 2030 (aligning with India's top-25 ambition), and a pessimistic outlook marked by stagnation from external shocks like economic downturns or heightened tensions.

The timing of this analysis, as of late 2025, could not be more pertinent. Global supply chains are still recovering from pandemic disruptions, compounded by geopolitical uncertainties such as conflicts in Europe and Asia that indirectly affect regional logistics. For India, aspiring to become a $5 trillion economy, strengthening ties in South Asia is strategic, not just for boosting exports in sectors like textiles, pharmaceuticals, and machinery, but also for promoting stability and shared prosperity. By highlighting how sustained logistics reforms could amplify TII, potentially by 15-25% for Bhutan and Nepal in optimistic cases, this study offers actionable insights. It underscores the need for tailored policies, such as prioritizing border infrastructure with neighbors and exploring confidence-building measures to ease constraints with Pakistan. Ultimately, realizing South Asia's full potential requires viewing trade facilitation not as a technical fix, but as a catalyst for deeper regional harmony in the coming years.

II. Aims and Objectives

The aim of this study is to explore and forecast India's trade potential with South Asian economies by integrating volume-based projections from historical import/export trends and intensity-based forecasts linked to trade facilitation improvements. Its objectives include:

i. Reviewing historical trends of Import, Export and Total trade data of India with South Asian Economies.
ii. Presenting predictions for future trade of India with other South-Asian nations.
iii. Conducting a country-wise analysis for trade potential with India.
iv. Providing policy insights for maximizing trade potential.

III. Review of Literature

Trade facilitation reduces costs and boosts flows (Wilson et al., 2005; Anderson & van Wincoop, 2004). In SAARC, infrastructure and customs are key drivers (Rauf & Khan, 2017), while geopolitics limits potential (Kumar, 2019). TII measures bilateral concentration (Kojima, 1964), and fixed effects models control for heterogeneity (Baier & Bergstrand, 2007).

The literature on trade facilitation and its impact on trade flows, particularly in the context of regional integration, has grown significantly in recent decades. Trade facilitation, which encompasses improvements in logistics, customs procedures, and infrastructure, is widely recognized as a key mechanism for reducing trade costs and enhancing bilateral trade relationships (Wilson et al., 2005). Anderson and van Wincoop (2004) seminal work on trade costs highlights how non-tariff barriers, including inefficient logistics, can impede trade more than tariffs themselves, providing a foundational framework for understanding trade intensity in regions like South Asia.

Within the SAARC region, several studies have examined the role of trade facilitation in boosting intra-regional trade. Rauf and Khan (2017) identify infrastructure and customs efficiency as critical drivers of intra-SAARC trade, noting that poor facilitation contributes to the region's low trade share of around 5% of total global trade. Kumar (2019) emphasizes geopolitical tensions as a limiting factor to realizing trade potential, particularly between India and Pakistan, underscoring the need for policy interventions beyond mere tariff reductions.

The Trade Intensity Index (TII), introduced by Kojima (1964), has been effectively used to measure bilateral trade concentration, controlling for the size of economies and revealing underlying trade biases. Panel regression models, such as fixed effects approaches, are commonly employed to account for unobserved heterogeneity in trade data (Baier&Bergstrand, 2007), and have been applied to SAARC contexts to assess facilitation impacts.

Recent empirical studies focus specifically on India's role in SAARC trade. Dwivedi and Yadav (2025) use fixed-effects panel regression on data from 2010-2022 to demonstrate that improvements in India's Logistics Performance Index (LPI) significantly enhance TII with most South Asian nations, with strongest effects for landlocked countries like Bhutan and Nepal. Similarly, Khan and Naqvi (2022) estimate the relationship between trade facilitation indicators and trade volumes in SAARC countries, finding positive correlations that suggest reforms could substantially increase regional flows.

Ur-Rashid and Khan (2024) explore non-tariff barriers, including standards, in South Asia, using a CGE model to show that mutual recognition of standards under SAFTA could boost intra-regional trade and welfare across member states. Duval and Utoktham (2014) provide insights into inclusive growth through trade facilitation in South Asia, highlighting how LPI improvements lead to broader economic gains, particularly for smaller economies.

Mogilevskii and Odell (2024) examine mobility restrictions' impact on trade facilitation during COVID-19 in Central Asia, offering lessons for SAARC on how border delays exacerbate costs, with implications for time-sensitive forecasting models. Persson (2011) analyzes trade facilitation's effects on the extensive margin of trade, finding larger benefits for developing countries in diversifying exports, relevant to SAARC's export concentration issues.

Perera et al. (2017) focus on South Asia's trade facilitation for economic development and poverty alleviation, arguing that inefficient logistics restrict trade and hinder poverty reduction efforts. Finally, the World Bank's review (2010) on trade costs and nontariff barriers emphasizes global gains from facilitation, with specific applications to South Asia's regional integration challenges.

Forecasting methodologies have been pivotal in projecting future trade trajectories. Sharma (2021) has used ARIMA models on international trade data, including comparisons between India and China during disruptions like COVID-19, demonstrate their efficacy in extrapolating trends based on historical volatility, offering insights into recovery paths for South Asian exports. Similarly, Kumar and Gupta (2010) has used univariate ARIMA for export forecasts from specific Indian regions, such as industrial goods, highlight compound annual growth rates (CAGRs) as reliable for short to medium-term predictions, aligning with observed contractions in geopolitically sensitive trades. Quaiyyum (2023) used panel regression analysis to extend the insights by examining macroeconomic determinants in South Asia, revealing how factors like institutional quality and openness influence trade balances and capitalization, with implications for scenario modeling under baseline, optimistic, and pessimistic assumptions.

IV. Data and Methodology

Data Sources

Model 1 (CAGR-Based): Bilateral import/export data from Excel sheet (2017-18 to 2024-25), covering Afghanistan, Pakistan, Nepal, Bhutan, Sri Lanka, Bangladesh, and Maldives. Total trade is imports + exports (unspecified units, assumed millions).

Model 2 (LPI-TII): Panel data (2010-2022, 91 observations) with TII as dependent variable and LPI (TFI) as key independent. 2023 LPI = 3.40; extensions use linear trends adjusted for recent data.

Methodology

Model 1: CAGR Projections

Compound Annual Growth Rate (CAGR) measures the mean annual growth rate of trade values over a specified period longer than one year, assuming the trade values compounded over that time. It is calculated as:

$$\text{CAGR} = \left(\frac{\text{Ending Value}}{\text{Beginning Value}}\right)^{1/n} - 1$$

Country-specific CAGRs for imports, exports, and total trade, calculated from 2017-18 to 2024-25, would be used to make trade value projections and patterns for the upcoming years. Projections are made through linear extrapolation using the following formula :

$$\mathbf{V_t = V_0 \times (1+r)^t}$$

$\mathbf{V_t}$ = Projected value at time t,

$\mathbf{V_0}$ = Base value ,

r = CAGR,

t = Number of years ahead.

Base year: 2024-25. **Assumptions**: Constant growth with no external shocks.

Model 2: Panel Regression and Time Series Forecasting.

This method is used to project relative trade closeness of India with other South Asian economies by predicting pattern of trade intensity of these nations with India and understanding how improvements in India's logistics ecosystem could enhance trade integration. This approach uses the Trade Intensity Index (TII) as the key dependent variable and links it econometrically to India's Logistics Performance Index (LPI), while controlling for other factors via fixed-effects panel regression.
Historical fixed effects model:

$$\mathbf{TII_{it} = \beta_0 + \beta_1 TFI_t + \sum_j \beta_j\ (TFI_t \times D_j) + \alpha_i + \gamma_t + \epsilon_{it}}$$

Forecasting: Linear trends/ARIMA(1,1,0) on TFI and TII series, with scenarios:
Baseline: Historical continuation.
Optimistic: TFI +4-5% annually (top-25 LPI by 2030).
Pessimistic: Stagnation.
Models implemented in Python (statsmodels) or R.

1. Trade Analysis and Predictions:

From 2017-18 to 2024-25 (Model 1 data), India's regional trade grew modestly from ~25,304 to ~32,171 units, driven by exports. Strong performers: Bhutan, Bangladesh, Maldives. Declines: Afghanistan, Pakistan.

Table 1: Historical Imports from India to South Asian Economies (2017-18 to 2024-25)
(Values in US $ Million)

	Afghanistan	Pakistan	Nepal	Bhutan	Sri Lanka	Bangladesh	Maldives
2017-18	433.78	488.56	438.38	377.99	772.63	685.65	5.68
2018-19	435.44	494.87	508.14	370.96	1,488.40	1,044.80	20.41
2019-20	529.84	13.97	711.61	405.73	903.69	1,264.74	6.00
2020-21	509.49	2.39	673.16	433.00	642.94	1,091.66	24.49
2021-22	510.93	2.54	1,371.04	545.04	1,009.97	1,977.93	68.93
2022-23	452.81	20.11	841.52	535.61	1,078.14	2,021.24	496.62
2023-24	642.29	2.88	831.11	339.11	1,424.23	1,844.76	86.64
2024-25	689.81	0.46	1,288.83	641.71	1,302.97	2,005.04	118.82
CAGR	6.85%	-63.04%	16.66%	7.85%	7.75%	16.57%	54.40%

Source:https://tradestat.commerce.gov.in/

Table 2: Projected Imports from India to South Asian Economies
(Values in US $ Million)

Year	Afghanistan	Pakistan	Nepal	Bhutan	Sri Lanka	Bangladesh	Maldives
2025-26	737.07	0.17	1,503.50	692.11	1,403.97	2,337.21	183.46
2026-27	787.57	0.06	1,753.91	746.47	1,512.80	2,724.41	283.26
2027-28	841.53	0.02	2,046.04	805.10	1,630.06	3,175.75	437.36
2028-29	899.19	0.01	2,386.83	868.33	1,756.42	3,701.86	675.28
2029-30	960.79	0.00	2,784.37	936.53	1,892.56	4,315.14	1,042.64
2030-31	1,026.62	0.00	3,248.14	1,010.09	2,039.27	5,030.01	1,609.84
2031-32	1,096.96	0.00	3,789.14	1,089.42	2,197.34	5,863.32	2,485.60
2032-33	1,172.11	0.00	4,420.25	1,174.99	2,367.67	6,834.68	3,837.77
2033-34	1,252.42	0.00	5,156.48	1,267.28	2,551.20	7,966.95	5,925.54
2034-35	1,338.23	0.00	6,015.33	1,366.81	2,748.95	9,286.81	9,149.07

Chart 1: Trend Analysis and Prediction of India's imports based on Table 1 and Table 2.

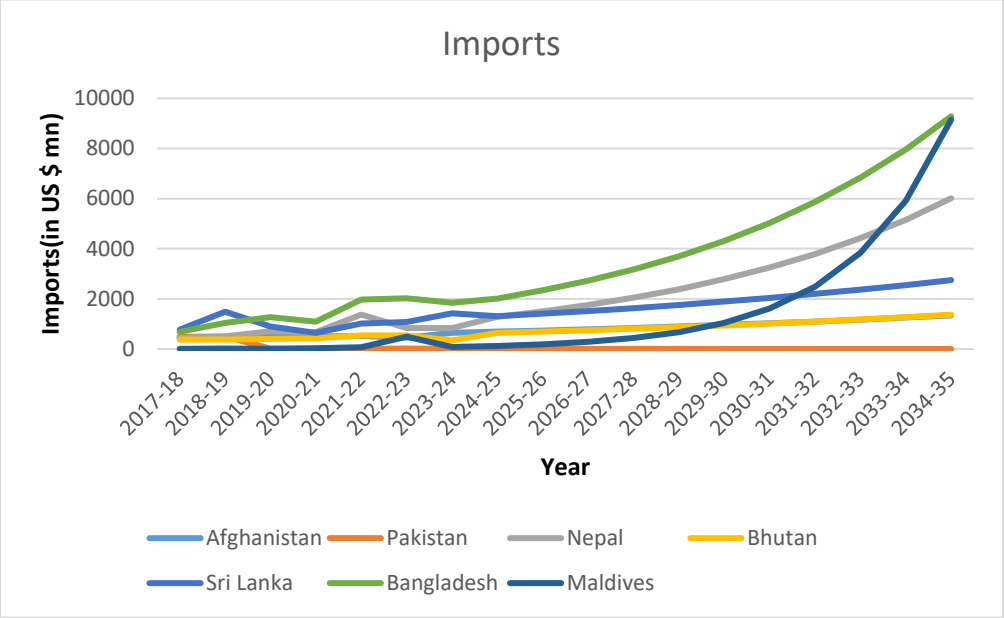


Table 3: Historical Exports from India to South Asian Economies (2017-18 to 2024-25)

(Values in US $ Million)

	Afghanistan	Pakistan	Nepal	Bhutan	Sri Lanka	Bangladesh	Maldives
2017-18	709.75	1,924.28	6,612.96	546.12	4,476.46	8,614.35	217.00
2018-19	715.44	2,066.56	7,766.20	657.33	4,710.21	9,210.06	223.02
2019-20	997.58	816.62	7,160.35	738.60	3,800.91	8,200.75	226.57
2020-21	825.78	326.87	6,838.46	701.02	3,498.23	9,691.56	226.57
2021-22	554.47	513.82	9,645.74	885.81	5,802.18	16,156.37	670.40
2022-23	437.05	627.10	8,079.25	1,079.09	5,111.59	12,215.85	476.75
2023-24	355.45	1,188.85	7,040.98	963.73	4,116.90	11,065.87	891.89
2024-25	318.91	557.78	7,385.98	1,263.83	4,550.78	11,485.26	560.88
CAGR	-10.80%	-16.21%	1.59%	12.73%	0.24%	4.19%	14.53%

Source:https://tradestat.commerce.gov.in/

Table 4: Projected Exports from India to South Asian Economies

(Values in US $ Million)

Year	Afghanistan	Pakistan	Nepal	Bhutan	Sri Lanka	Bangladesh	Maldives
2025-26	284.47	467.34	7,503.55	1,424.77	4,561.50	11,967.03	642.37
2026-27	253.75	391.57	7,623.00	1,606.21	4,572.24	12,469.00	735.70
2027-28	226.34	328.08	7,744.35	1,810.76	4,583.01	12,992.04	842.59
2028-29	201.90	274.88	7,867.63	2,041.35	4,593.80	13,537.01	965.01
2029-30	180.09	230.31	7,992.87	2,301.31	4,604.62	14,104.84	1,105.22
2030-31	160.64	192.97	8,120.10	2,594.37	4,615.46	14,696.49	1,265.80
2031-32	143.29	161.68	8,249.36	2,924.75	4,626.33	15,312.96	1,449.71
2032-33	127.82	135.47	8,380.68	3,297.21	4,637.23	15,955.29	1,660.34
2033-34	114.02	113.50	8,514.09	3,717.10	4,648.15	16,624.56	1,901.57
2034-35	101.70	95.10	8,649.62	4,190.45	4,659.10	17,321.90	2,177.85

Chart 2: Trend Analysis and Prediction of India's exports based on Table 3 and Table 4.

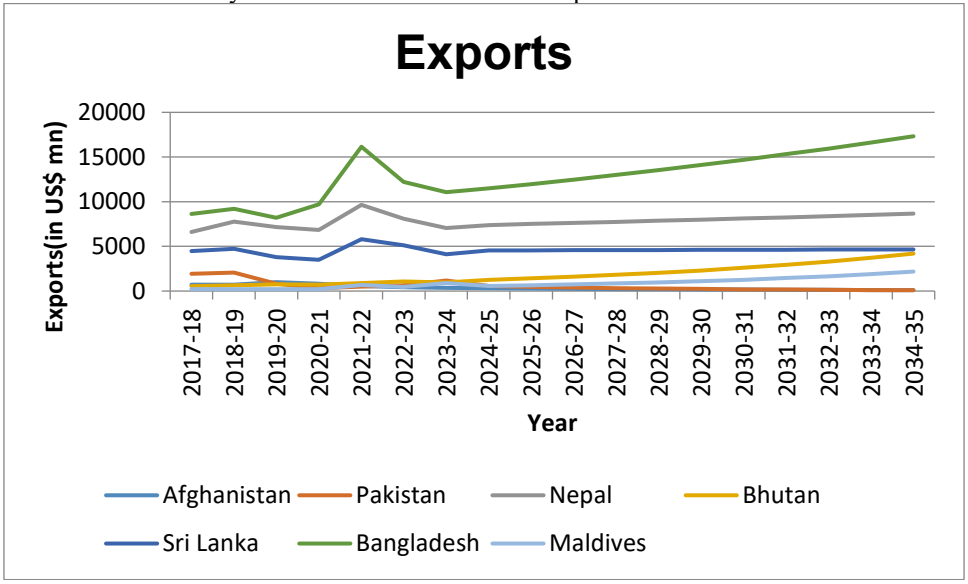


Table 5: Historical Total Trade from India to South Asian Economies (2017-18 to 2024-25)
(Values in US $ Million)

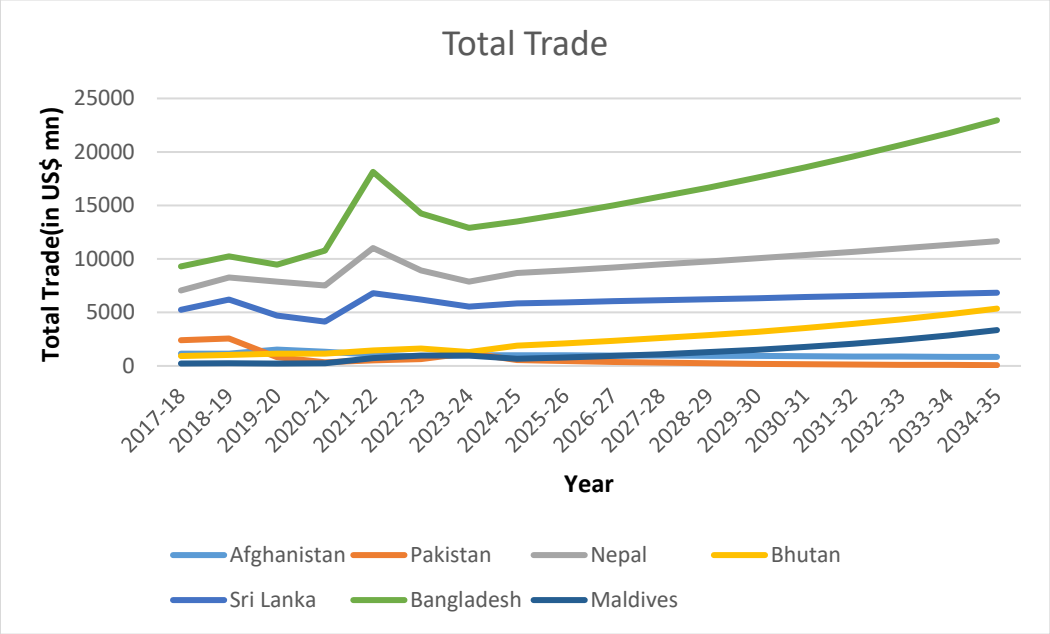
	Afghanistan	Pakistan	Nepal	Bhutan	Sri Lanka	Bangladesh	Maldives
2017-18	1143.53	2412.84	7051.34	924.11	5249.09	9300	222.68
2018-19	1150.88	2561.43	8274.34	1028.29	6198.61	10254.86	243.43
2019-20	1527.42	830.59	7871.96	1144.33	4704.6	9465.49	232.57
2020-21	1335.27	329.26	7511.62	1134.02	4141.17	10783.22	251.06
2021-22	1065.4	516.36	11016.78	1430.85	6812.15	18134.3	739.33
2022-23	889.86	647.21	8920.77	1614.7	6189.73	14237.09	973.37
2023-24	997.74	1191.73	7872.09	1302.84	5541.13	12910.63	978.53
2024-25	1008.72	558.24	8674.81	1905.54	5853.75	13490.3	679.7
CAGR	- 1.78%	-18.87%	3.00%	10.89%	1.57%	5.46%	17.28%

Source: https://tradestat.commerce.gov.in

Table 6: Projected Total Trade
(Values in US $ Million)

Year	Afghanistan	Pakistan	Nepal	Bhutan	Sri Lanka	Bangladesh	Maldives
2025-26	990.76	452.90	8,935.05	2,113.05	5,945.65	14,226.90	797.15
2026-27	973.13	367.44	9,203.11	2,343.16	6,039.00	15,003.70	934.90
2027-28	955.81	298.10	9,479.20	2,598.34	6,133.81	15,822.90	1,096.45
2028-29	938.79	241.85	9,763.58	2,881.29	6,230.11	16,686.80	1,285.92
2029-30	922.08	196.21	10,056.50	3,195.07	6,327.93	17,597.90	1,508.12
2030-31	905.67	159.19	10,358.20	3,543.01	6,427.28	18,558.70	1,768.73
2031-32	889.55	129.15	10,668.90	3,928.84	6,528.18	19,572.00	2,074.36
2032-33	873.72	104.78	10,989.00	4,356.69	6,630.68	20,640.70	2,432.81
2033-34	858.16	85.01	11,318.70	4,831.14	6,734.78	21,767.70	2,853.20
2034-35	842.89	68.97	11,658.20	5,357.25	6,840.51	22,956.20	3,346.24

Chart 3: Trend Analysis and Prediction of India's total trade based on Table 5 and Table 6.



Regional total rises ~71% by 2034-35.

Model 2:

Table 7: Trade Facilitation Indicator of India

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
3.12	3.10	3.08	3.08	3.08	3.25	3.42	3.30	3.18	3.235	3.29	3.345	3.4

Source:https://lpi.worldbank.org/international/scorecard

Table 8: Trade Intensity Index of India with South Asian Nations

Country	Afghanistan	Bangladesh	Bhutan	Maldives	Nepal	Pakistan	Sri Lanka
2010	2.91	3.82	39.1	5.52	29.94	2.25	9.16
2011	2.34	3.44	34.65	4.07	26.34	1.32	8.64
2012	2.98	4.4	33.12	3.62	24.01	1.46	7.87
2013	3.78	4.51	37.08	3.07	24.47	1.68	7.93
2014	3.72	4.63	38.42	3.57	26.81	1.68	10.2
2015	4.85	4.21	37.34	4.82	30.11	1.69	10.05
2016	4.79	4.22	44.74	4.61	35.43	1.48	8.32
2017	4.52	4.25	45.02	4.85	36.3	1.24	8.45
2018	3.92	9.03	47.54	6.51	42.2	2.57	13.65
2019	7.08	8.17	48.81	5.82	39.43	1.42	13.31
2020	7.6	9.77	50.14	8.51	44.36	0.36	13.31
2021	5.87	9.86	45.4	12.82	38.32	0.38	13.15
2022	4.33	8.2	40.84	8.43	38.88	0.47	18.7

Source: Author calculations based on UNCOMTRADE Database

Table 9: Fixed Effects Regression Results

Variable	**Baseline FE**	**Country -Specific FE**
TFI	15.98*** (2.34)	
TFI × Afghanistan		5.67* (3.12)
TFI × Bangladesh		8.12** (2.89)

TFI × Bhutan		22.71*** (4.15)
TFI × Maldives		6.45** (2.67)
TFI × Nepal		19.82*** (3.98)
TFI × Pakistan		0.89 (0.45)
TFI × Sri Lanka		9.33*** (3.01)
Country FE	Yes	Yes
Time FE	Yes	Yes
Observations	91	91

Source: Own calculations done by the author.

Panel analysis (2010-2022, Model 2) shows a 1-unit LPI increase raises TII by ~16 points overall, strongest for Bhutan (22.7), Nepal (19.8), insignificant for Pakistan (0.9).
LPI-TII Scenario Projections (2023-2030, Extended to 2035)

Table 10: Baseline TII projections

Year	TFI (India)	Afghanistan	Bangladesh	Bhutan	Maldives	Nepal	Pakistan	Sri Lanka
2023	3.40	6.8	8.2	44.2	7.8	38.4	0.6	16.0
2025	3.45	7.4	9.0	46.0	8.6	40.4	0.4	17.5
2027	3.52	8.0	9.8	47.9	9.4	42.5	0.2	19.0
2030	3.65	9.1	11.2	50.8	10.7	45.8	0.1	21.2

Optimistic: TII 15-25% higher for Bhutan/Nepal by 2030 (TFI=3.80). Pessimistic: Stagnation (TFI=3.40). Extended to 2035 assuming trends continue (e.g., baseline TII for Bhutan ~55 by 2035).

2. Combined Country-Wise Analysis

Afghanistan
Model 1 (CAGR model) projects declining total trade (-1.78% CAGR), from 1,008.72 (2024-25) to 842.89 (2034-35), driven by export drops (-10.80%). Model 2 shows modest TII growth (6.8 in 2023 to 9.1 in 2030 baseline), but pessimistic scenarios predict stagnation due to instability. Overall, it has limited potential, volumes shrink while intensity mildly improves with LPI gains, but geopolitics caps upside. Trade may stabilize at lower levels without peace initiatives.

Pakistan
Both models signal severe constraints. Model 1shows sharp decline (-18.87% CAGR), nearing zero by 2034-35. Model 2: TII falls to 0.1 by 2030 and insignificant LPI impact. Overall, it has minimal potential, geopolitical barriers dominate, overriding logistics benefits. Revival of trade would require diplomatic breakthroughs.

Nepal
Model 1 shows moderate growth (3.00% CAGR), from 8,674.81 to 11,658.20. Model 2 shows strong TII rise (38.4 to 45.8 baseline, +12-20% optimistic). Overall, it has high potential; landlocked status amplifies LPI effects on intensity, aligning with volume increases. Infrastructure focus could double benefits.

Bhutan
Model 1 shows robust expansion (10.89% CAGR), from 1,905.54 to 5,357.25. Model 2 shows TII to 50.8 (baseline), +15-25% optimistic. Overall, it has exceptional potential; hydropower synergies boost both volumes and intensity. LPI improvements yield disproportionate gains.

Sri Lanka
Model 1 has modest growth (1.57% CAGR), from 5,853.75 to 6,840.51. Model 2 has TII to 21.2 (baseline). Overall, it shows steady potential. Post-crisis recovery supports volumes, while LPI enhances intensity moderately. Maritime ties offer scope for acceleration.

Bangladesh
Model 1 shows solid growth (5.46% CAGR), from 13,490.30 to 22,956.20. Model 2 shows TII to 11.2 (baseline). Overall, there is a strong potential for trade growth. Manufacturing complements drive volumes, with LPI adding intensity gains. FTAs could amplify.

Maldives
Model 1 shows explosive growth (17.28% CAGR), from 679.70 to 3,346.24. Model 2 shows TII to 10.7 (baseline). Overall, it has scope for high tourism-driven potential. Volumes surge, intensity rises with LPI, but vulnerability to external shocks noted.

Overall, models converge on growth for Bhutan, Nepal, Bangladesh, and Maldives, but diverge on Afghanistan/Pakistan, highlighting geopolitics vs. logistics. The analysis reveals India's trade potential could

exceed 70% regional growth by 2035, potentially 100% optimistically, if LPI reaches 3.80. Landlocked nations show synergy between volumes and intensity.

V. Conclusion

India's steady advancement in logistics capabilities, as captured by its rising Logistics Performance Index, holds substantial promise for deepening economic ties across South Asia. The empirical findings of this study, rooted in fixed-effects panel analysis of historical data (2010-2022) and extended through scenario-based time-series projections, demonstrate that continued improvements in trade facilitation could meaningfully strengthen bilateral trade intensity with most South Asian nations. Landlocked economies such as Bhutan and Nepal stand to benefit the most, with potential increases in Trade Intensity Index of 15-25% and 12-20% respectively by 2030 under realistic optimistic assumptions. These gains would arise from lower transit costs, faster border clearance, and better multimodal connectivity, outcomes directly aligned with India's ongoing reforms under PM GatiShakti and the National Logistics Policy.

At the same time, the projections underscore persistent structural limits. Geopolitical frictions continue to suppress trade flows with Pakistan and, to a lesser extent, Afghanistan, where even significant logistics progress yields only marginal or negligible improvements in intensity. This asymmetry highlights that while infrastructure and procedural reforms are powerful enablers, they cannot fully substitute for political goodwill and confidence-building measures in the most sensitive bilateral relationships.

Looking ahead, achieving India's stated goal of entering the global top 25 on the LPI by 2030 would not only reduce domestic logistics costs but also act as a catalyst for broader intra-region integration. Such progress could help shift South Asia from one of the least integrated regions toward a more cohesive economic space, delivering welfare gains to millions through expanded markets, diversified supply chains, and job creation.

Future investigations should build on this work by incorporating gravity-model frameworks to better account for distance and economic size, as well as by factoring in emerging risks such as climate change impacts on transport corridors and digital trade disruptions. Until then, the central message remains clear: sustained, targeted investment in trade facilitation offers one of the most practical and immediate pathways to realizing South Asia's long-standing but largely unrealized trade potential.

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