

Getting Our Act Together: A Case of Improving Trade Facilitation in South Asia

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Intra-regional trade in SAARC is considerably lower than many other regions in the world. Under-developed infrastructure and stringent custom procedures are few of the possible barriers to trade. This paper analyses the existing state of infrastructure and custom procedures prevalent in South Asian countries and compares them with those of ASEAN countries. Low road-density, poor port infrastructure, under-developed telecommunication networks and lengthy custom procedures are some of the factors that result in high transaction costs of trade and reduce competitiveness of South Asian exports within regional markets. This study highlights the potential benefits of overcoming these barriers, and gives recommendations that can help policy-makers in developing a framework for bolstering regional integration in South Asia.

JEL Classification: F15, M21, B27, M38, O18

Keywords: Trade Facilitation, SAARC, ASEAN, Infrastructure, Regional Integration

1. INTRODUCTION

South Asia is one of the least economically integrated regions in the world, its share of global trade is less than 3 percent, and intra-regional trade accounts for less than 6 percent of its total trade. Considering the proximity of SAARC countries to each other and the fact that more than one-fifth of the world's population lives in this region,¹ the amount of intra-regional trade is extremely low.

In ASEAN, intra-regional trade accounts for roughly 22 percent of their total trade, and in EU it accounts for more than 60 percent. These statistics hint at possible problems in South Asia that have not allowed it to integrate in the way other regional cooperation across the world have done.

It is intuitive to think that one of the main reasons for low-integration in the region is the political hostility between South Asian countries. The two largest economies of SAARC, namely Pakistan and India, have not had a stable political relationship since independence from the British in 1947. Trade flows between the two are greatly hampered by their unstable relationship.

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¹Based on World Bank data for 2013.

The political situation despite being a key factor in low intra-regional trade may not be the only factor. This study aims to explore the role that Infrastructure and Custom procedures in South Asia have on lowering trade-flows between the South Asian countries. We attempt to answer the following questions, what role does infrastructure and custom procedures play in trade facilitation? Where does the infrastructure and custom procedures of SAARC countries stand compared to some of the other regions in the world? What measures can the governments take to facilitate trade in the region?

Analysis revealed that low road-density, poor port infrastructure, under-developed telecommunication networks and lengthy custom procedures are some of the factors that result in high transaction costs of trade and reduce competitiveness of South Asian exports within regional markets

The remainder of the paper is organised as follows. Section 2 review the relevant literature. Section 3 provides situational analysis of current state of customs, infrastructure and trade. Section 4 contains conclusions and way forward.

2. REVIEW OF LITERATURE

Trade facilitation in narrow terms is concerned with trade logistics and custom requirements for facilitating cross-border trade. In a broader sense, it also includes the environment in which trade occurs, transparency of customs and regulatory institutions, standard of information technology, and adherence to international regulations and standards [Wilson, Mann, and Otsuki (2003)].

The benefits of trade facilitation in improving trade-flows between countries are well-documented in the literature. Wilson, *et al.* (2003) tried to quantify the impact of trade facilitation on bilateral trade flows for APEC countries using four indicators for trade facilitation in a Gravity model setup. The indicators used included port efficiency, custom environment, regulatory environment and e-business, each reflecting an aspect of trade-facilitation. All four variables were found to have a significant impact on trade flows, with the greatest impact coming from enhanced port-efficiency. Using a simulation technique, it was predicted that if all indicators for below average countries were increased to average levels, then intra-APEC² trade could rise by \$254 billion, increasing the average per capita GDP by 4.3 percent of APEC countries.

Port efficiency is determined both by the infrastructure of ports and custom requirements and procedures, activities such as cargo-handling and towing are dependent on the infrastructure whereas custom requirement and regulation influence port efficiency through time required for clearance procedures. Excessive time taken reduces competitiveness of exporter mainly by increasing cost associated with storage of goods.

According to Clark, Dollar, and Micco (2004) improving port efficiency from 25th to 75th percentile could reduce shipping cost by almost 12 percent, with the negative effect of bad ports being similar to having target markets 60 percent farther away.

The quality of a country's infrastructure can impact trade through multiple dimensions. There is a direct relation of infrastructure with costs, time of delivery and uncertainty [Nordås and Piermartini (2004)]. Countries that have poor infrastructure are likely to have higher costs associated with transportation resulting in higher prices of their products and making them less competitive in international markets. Limao and

²APEC (Asia Pacific Economic Cooperation) has 21-member countries, see www.apec.org

Venables (2001) for example, estimated that improving the destination infrastructure by 1 standard deviation had an equivalent impact as reduction of overland travel distance by 1000 Km. Time and uncertainty dimensions also act as an obstacle to trade. Time dimension is important because poor infrastructure leads to increase in time taken for transportation of goods, for example in Pakistan the combined effect of poor infrastructure and old fleet of trucks means that, on average trucks travel at speed of 20-25 km/h, compared to an average speed of European trucks of 80-90 Km per hour.³ Uncertainty arises because poor infrastructure increases the risk of accidents and increases the probability of failure of delivery. Both uncertainty and time dimension make holding excess inventory necessary which is costly to the firms. Guasch and Kogan (2001) estimated that one standard deviation improvement in infrastructure can reduce average inventory levels by 27-47 percent and that cutting inventory levels to half could reduce unit cost of product by over 20 percent in developing countries.

A study by Hoekman and Nicita (2011) showed improving trade logistics measured by Logistics Performance Index has a significant impact on trade-flows of developing countries. They showed that if policies adopted in low-income countries improve their logistic performance level to the average of middle income countries then, on average, imports in these countries would rise by 8.5 percent and exports by a significant 15.1 percent.

Custom procedures and delays are also of utmost importance for trade facilitation, some of these procedures and regulations are essential for security purposes, while those beyond essential, only act as barriers to trade. The delays can be significant especially for time-sensitive products such as agricultural products, as delays may force firms out of the market.

They also increase the storage costs that firms must bear, further reducing competitiveness of the firms. Custom clearance times can vary significantly in different countries, for example although Greece and Ethiopia have the same distance to each other as Finland and Portugal, the former on average take 61 more days in clearing good on borders [Wilson (2007)]. Improvement in custom efficiency of an importing country has a more significant impact for increasing trade-flows as compared to improvements in infrastructure or logistics, whereas infrastructure has a more significant impact for an exporting country followed by improvement in logistics [Felipe and Kumar (2010)].

The Literature clearly shows that infrastructure and customs procedures are important factors that affect the cross-border flow of trade. The low-volume of intra-regional trade in South Asia makes it necessary to analyse the existing state of infrastructure and custom procedures, so that problem areas can be identified, and policymakers can take corrective action.

3. SITUATIONAL ANALYSIS

Table 1 compares the intra-regional trade of SAARC and ASEAN countries over the years. Intra-regional trade amongst SAARC countries has remained almost the same over the years, between 5 percent to 8 percent. Clearly well behind the level of ASEAN countries that has ranged between 23 percent to 27 percent. The overall composition of the intra-regional trade in SAARC has changed with Pakistan's share falling from 21 percent in 2011 to only around 12 percent in 2015.

³Revitalising Industrial Growth in Pakistan: Trade, Infrastructure, and Environmental Performance 2014.

Table 1

Regional Export and Share of Pakistan in SAARC's Intra Export

Year	SAARC Intra Exports to its Total Exports	ASEAN Intra Exports to its Total Exports	Share of Pakistan in SAARC's Intra Exports
2003	6.51%	24.64%	13.81%
2004	6.04%	24.74%	15.42%
2005	6.33%	25.10%	21.45%
2006	5.90%	24.69%	19.06%
2007	6.12%	25.02%	14.31%
2008	6.36%	25.26%	16.95%
2009	5.38%	24.41%	18.67%
2010	6.01%	25.05%	17.72%
2011	5.44%	24.77%	21.43%
2012	5.71%	25.74%	17.27%
2013	5.69%	25.77%	15.21%
2014	7.28%	25.35%	12.51%
2015	6.95%	24.24%	13.09%
2016	6.79%	23.20%	11.62%

Source: Autor's own calculations based on International Trade Center data.

Table 2 shows that India has the highest absolute imports and exports with most countries in the region, which is expected for two reasons. Firstly, it is by far the largest economy in the region and therefore its trade-flows are naturally going to be larger compared to others in the region. Secondly it occupies a central position in the region with a common border with four of the seven countries. This is also one of the major reasons why India is the key to intra-regional trade facilitation in the region. For countries like Bhutan, Nepal, Bangladesh and Pakistan the most convenient way to access each other through land is via India, therefore trade and transport infrastructure as well as trade policies of India are a crucial factor in determining the regional trade-flows in South Asia.

Table 2

Bilateral Trade Flows All Product (Thousands Dollar)

	Exporting Country 2015								Total Imports
	Pakistan	India	Sri Lanka	Bangladesh	Afghanistan	Nepal	Maldives	Bhutan (2012)	
Importers									
Pakistan	–	1963456	73602	47743	226569	171	0	0	2311541
India	312284	–	710404	517891	188870	419094	1558	497717	2647818
Sri Lanka	260015	5501015	–	25986	1	373	14224	0	5801614
Bangladesh	700567	5521518	98484	–	619	6834	285	21910	6350217
Afghanistan	1722216	534258	493	4713	0	9122	0	0	2270802
Nepal	2280	3195122	3605	2620	0	–	0	2008	3205635
Maldives	7584	166865	87408	6142	0	1	–	0	268000
Bhutan	0	375223	16	2442	0	1488	0	–	379169
Total Exports	3004946	17257457	974012	607537	416059	437083	16067	521635	

Source: World Development Indicators.

Table 2 also reveals another interesting fact about intra-regional trade in South Asia. The 2015 trade-flows show that bilateral trade is non-existent between many SAARC member countries like Afghanistan and Nepal, Maldives and Afghanistan, and Pakistan and Bhutan etc. These figures are alarming, and it is imperative to analyse the impeding factors for greater regional cooperation and integration.

Trade infrastructure is one of the major factors that caters to the overall trade in the economy and even across economies. Many economies have realised the importance of lower distribution costs and transportation times and this has been evident in the number of economic corridors that are underway, one prime example is China with its one belt and one road initiative. However, the development of infrastructure must be supported with other trade facilitation methods to really make these corridors effective in increasing economic integration and growth. Empirical literature has shown the importance of both infrastructure and customs in determining the amount of cross-border trade flow. It can thus be inferred that problems in infrastructure and customs in SAARC countries also contribute to the low amount of intra-regional trade in South Asia. Trade related infrastructure includes rail, road, ports (air and maritime), and communication systems, all of which play a crucial role in facilitating trade both domestically and internationally. Ports in SAARC are especially important for Sri Lanka and Maldives as both are islands and are not connected to the rest of South Asia through land. The remainder of this section analyses custom procedures and trade-related infrastructure of South Asia, comparing it with ASEAN countries to identify the problem areas.

Efficient custom procedures, that allow quick and easy processing of imported and export goods are essential for promoting trade in any country in the world. “Studies have shown that inefficient, unpredictable, and opaque customs procedures are among the primary nontariff barriers in developing countries contributing to high trade costs, poor business climate, and inability to integrate into global value chains” [Asian Development Bank (2017)].

The study by Felipe and Kumar (2010) showed that a one percent increase in custom efficiency resulted in more than one percent increase in trade-flows between the countries. Wilson, *et al.* (2003) also found custom environment to be a significant factor in explaining trade-flows between countries. Based on the findings of these studies, it could be said that improving custom efficiency in South Asian countries can help improve regional integration in South Asia. Inter-regional trade among SAARC countries is low and most trade is with countries from other regions in the world, rather than with the neighbours. The Exporters in SAARC countries may be exporting to other European countries due to easier and more efficient custom procedures of those countries, resulting in lower amount of intra-regional exports. “The idea that India can trade with far-away countries like Brazil at almost 20 percent cheaper rates compared to Pakistan” [World Bank (2016)] should be alarming to South Asian policy-makers.

However, as much as it is alarming it is also very promising in the respect that it showcases that there is loads of potential for improving integration amongst South Asian countries that can be achieved by improving regional issues. According to a World Bank report, removing barriers to trade in South Asia could increase regional trade by almost 300 percent. [World Bank (2016)].

3.1. Customs Efficiency

The custom efficiency scores in Table 3 and Table 4 are an evaluation of customs of a country and reflect their performance in areas such as speed of custom clearance, simplicity and predictability of custom. Unfortunately for South Asian countries, even the second-best score for a SAARC member of 2.66 is considerably lower than the average score for ASEAN countries. These scores, reflect the fact that there is a need for a dedicated effort from the concerned authorities to improve custom efficiency to the standards of developed countries.

Table 3

Custom Efficiency Scores of SAARC Countries

SAARC Countries	2007	2014	2016
Pakistan	2.41	2.84	2.66
India	2.69	2.72	3.17
Sri Lanka	2.25	2.56	–
Bangladesh	2	2.09	2.57
Nepal	1.83	2.31	1.93
Bhutan	1.95	2.09	2.21
Afghanistan	1.3	2.16	2.01
Maldives	–	2.95	2.39

Source: World Development Indicators.

The efficiency scores showcase an unusual trend. Where most countries improve on their scores, Pakistan's and Nepal's scores have fallen which could very well be the reason for a lack of integration as trade will be affected by the customs efficiency of both the countries. Pakistan and Nepal especially modernise customs procedures by providing legal support so that certain risks are mitigated, improve the consistency, transparency and incorporate modern tools in their clearance procedures. Another issue normally seen with developing countries is that they lack the necessary human resource capacity for modern customs administration.

Table 4

Regional Custom Efficiency Scores

Regions	Average Custom Efficiency Scores 2016
SAARC	2.42
ASEAN	2.82

Source: World Development Indicators.

One of the World Bank's recent proposition is a policy-based loan to Nepal for the reformation, modernisation of custom procedures and a trade facilitation program. The purpose of this loan is to upgrade Nepal's existing trade processes to international standards to help the country improve economically and to "fulfil its commitments to the Trade Facilitation Agreement (TFA) of the World Trade Organisation (WTO) and related international standards on customs" [World Bank (2016)].

The report states that successful completion of the programme would increase the exports and imports of Nepal by roughly 23 percent and 22 percent respectively. Modernisation of custom procedures would lower the costs associated with trading goods through multiple channels and will have a positive long-term impact on Nepal's economy.

Another evidence of the complexity and burden of procedures involved in exporting and importing goods in South Asia is shown by the number of days required to import and export. The number of days includes time taken to complete all procedures related to exporting or importing goods, including all delays caused at loading and unloading of goods at ports. In the modern competitive world, a delay of few days will reduce the competitiveness of exports and may force some firms out of the market. One way to look at it is to see the impact of delays on costs incurred by firms. Delays make holding excess inventory a requirement, and excess inventory has significant impact on unit costs of firms. Also, the storage costs incurred due to delays at ports are quite significant for the producers.

A differentiation can be made between the time taken due to border compliance issues and documentary compliance. The latter captures the time and cost associated with fulfilling the documentary requirements of the exporter country, importer country and any transit government involved in the trade. The former refers to the cost and time required for non-documentary compliance such as mandatory inspections, custom regulations, and handling costs.

3.2. Documentary Compliance

Table 5 shows that time required for documentary compliance, in South Asia the lowest time requirement is for Bhutan, with 8 hours required for imports and only 9 hours required for exports. Afghanistan requires the most time for exports and Imports. The average time for imports for the entire SAARC is approximately 106 hours, which is considerably higher than the average for ASEAN with 83 hours. The case for documentary compliance time to export is different as the SAARC's average time is lower than that of ASEAN countries. Lower documentary compliance time means lower administrative costs for exporters and importers, they also result in lower information costs to understand the procedures required for flow of good across borders [Heble, Shepherd, and Wilson (2007)]. Thus, reducing the time taken due to documentary compliance can facilitate trade and increase intra-regional trade-flows in South Asia.

The documentary compliance costs are shown in Table 6. SAARC countries on average take more time and have higher costs for exporting and importing when compared to ASEAN countries either due to more strict regulations, corruption or due to inefficient procedures and shipment handling. However, ASEAN countries generally showcase similar documentary compliance times and costs for both imports and exports or in some cases the time and cost for exports is higher than that for imports. So, this raises the question as to why is there a difference between export and import documentary compliance times for countries like Pakistan and Indonesia. One reason that that comes up is that of the transit economies, if most Pakistan's imports arrive via land meaning through various transit economies while its majority exports are via sea then that could explain the difference. Reducing extra stringent and unnecessary red tape will also lower the high cost and time for importers in some South Asian countries.

Table 5

Documentary Compliance (Time in Hours)

Country	Time to Export			Time to Import		
	2014	2015	2016	2014	2015	2016
Afghanistan	243	243	228	336	336	324
Bhutan	9	9	9	8	8	8
Bangladesh	147	147	147	144	144	144
India	41	41	38	63	63	61
Pakistan	62	62	59	153	153	147
Sri Lanka	76	76	76	58	58	58
Maldives	48	48	48	61	61	61
Nepal	19	19	19	48	48	48
SAARC	80.63	80.63	78	108.88	108.88	106.38
Indonesia	72	72	61	144	144	133
Malaysia	10	10	10	10	10	10
Cambodia	132	132	132	132	132	132
Lao PDR	216	216	216	216	216	216
Myanmar	144	144	144	48	48	48
Philippines	72	72	72	96	96	96
Singapore	2	2	2	3	3	3
Thailand	11	11	11	4	4	4
Vietnam	83	83	50	106	106	76
Brunei Darussalam	168	168	163	144	144	140
ASEAN	99.43	99.43	94	88.14	88.14	83.29

Source: World Development Indicators.

Table 6

Documentary Compliance (Cost in US \$)

Country	Cost to Import			Cost to Export		
	2014	2015	2016	2014	2015	2016
Pakistan	307	307	307	786	786	786
Afghanistan	344	344	344	900	900	900
India	102	102	92	145	145	135
Sri Lanka	58	58	58	283	283	283
Bangladesh	225	225	225	370	370	370
Bhutan	50	50	50	50	50	50
Nepal	85	85	85	80	80	80
Maldives	300	300	300	180	180	180
SAARC	184	184	183	349	349	348
Brunei Darussalam	90	90	90	50	50	50
Indonesia	170	170	139	164	164	164
Lao PDR	235	235	235	115	115	115
Malaysia	45	45	45	60	60	60
Myanmar	140	140	140	115	115	210
Philippines	53	53	53	50	50	50
Singapore	37	37	37	40	40	40
Thailand	97	97	97	43	43	43
Vietnam	139	139	139	183	183	183
Cambodia	100	100	100	120	120	120
ASEAN	87	87	87	101	101	101

Source: World Development Indicators.

The high difference between the major SAARC and ASEAN countries is apparent. Documentary compliance in Pakistan takes approximately 2.5 days for exports and 6 days for imports compared to India's 1.5 days for exports and 2.5 days for imports. While the leading ASEAN countries, e.g. Malaysia takes just 10 hours for both exports and imports. The case is similar for documentary compliance costs where Pakistan's costs are \$307 and \$786 for exports and imports respectively and for Malaysia it is \$45 and \$60. The high difference does affect costs and delivery times for businesses in these countries and affects their ability to compete in the international market.

3.3. Border Compliance

Moving on to Border compliance times, the average for South Asia is 59.38 hours to export and 116.13 to import, compared to the average of ASEAN countries, which is 62.29 to export and 73.29 for imports as shown in Table 7. The massive difference in the time for imports might be one of the factors that discourage foreign traders to export to South Asian countries. The one caveat that might be applicable here is that higher border compliance might be due to more stringent quality checks and tests. However, it is unlikely considering the relatively developed countries of Malaysia, Singapore have very low hours for importing and it is likely that these economies do not compromise on quality control.

Table 7

Boarder Compliance (Time in Hours)

Country	Time to Export			Time to Import		
	2014	2015	2016	2014	2015	2016
Afghanistan	48	48	48	96	96	96
Bhutan	5	5	5	5	5	5
Bangladesh	100	100	100	183	183	183
India	109	109	106	287	287	283
Pakistan	79	79	75	141	141	129
Sri Lanka	43	43	43	72	72	72
Maldives	42	42	42	100	100	100
Nepal	64	64	56	66	66	61
SAARC	61.25	61.25	59.38	118.75	118.75	116.13
Indonesia	53	53	53	99	99	99
Malaysia	48	48	48	72	72	72
Cambodia	48	48	48	8	8	8
Lao PDR	12	12	12	14	14	14
Myanmar	144	144	144	120	120	232
Philippines	42	42	42	72	72	72
Singapore	12	12	12	35	35	35
Thailand	51	51	51	50	50	50
Vietnam	60	60	58	64	64	62
Brunei Darussalam	120	120	117	48	48	48
ASEAN	63.00	63.00	62.29	57.57	57.57	73.29

Source: World Development Indicators.

The border compliance costs are shown in Table 8. Apart from the time taken, the cost involved with border compliance are high for SAARC countries. The difference in cost to export between the average of SAARC and ASEAN countries is \$26 while the difference in imports costs is \$296. Bangladesh and Pakistan have the highest costs for importing while their export costs are similar to that of India, which might indicate that the countries are using border compliance time and cost to discourage imports relative to exports.

Table 8
Boarder Compliance (Cost in US \$)

Country	Cost to Export			Cost to Import		
	2014	2015	2016	2014	2015	2016
Pakistan	426	426	426	957	957	957
Afghanistan	511	511	453	850	850	750
India	413	413	413	574	574	574
Sri Lanka	366	366	366	300	300	300
Bangladesh	408	408	408	1294	1294	1294
Bhutan	59	59	59	110	110	110
Nepal	288	288	288	156	156	190
Maldives	596	596	596	981	981	981
SAARC	383	383	376	653	653	645
Brunei Darussalam	340	340	340	395	395	395
Indonesia	254	254	254	383	383	383
Lao PDR	73	73	73	153	153	153
Malaysia	321	321	321	321	321	321
Myanmar	432	432	432	367	367	457
Philippines	456	456	456	580	580	580
Singapore	335	335	335	220	220	220
Thailand	223	223	223	233	233	233
Vietnam	309	309	309	392	392	392
Cambodia	375	375	375	240	240	240
ASEAN	350	350	350	336	336	349

Source: World Development Indicators.

Similarly, the difference in border compliance time and costs between SAARC and ASEAN countries are very high. Pakistan's border compliance time for exports is roughly 3 days, for imports it is 5.4 days, while India reports 4.4 days for exports and 11.8 days for imports. Comparing these values to Malaysia's 2 days for exports, 3 for imports and Indonesia's 2.2 days for exports and 4.1 days for imports. The high difference can also be seen in the border compliance costs where it is \$426 for exports and \$957 for imports in the case of Pakistan and \$321 for both exports and imports in Malaysia.

These differences are more surprising when we look at other SAARC countries, one of those being Nepal which shows lower border compliance costs and times than India, Pakistan, Bangladesh. One possible reason for this could be that the trade-flows of these

countries are greater than that of Nepal, putting a higher burden on custom authorities. This reason however is not enough to justify the significant difference in cost as developed countries like Malaysia have lower compliance costs and time, despite having almost five times greater trade volume than countries like Pakistan and Bangladesh.

The excessive border compliance time and costs for SAARC countries could also be due to the poor capacity of the port infrastructure to accommodate a high number of shipments. Infrastructure and efficiency of seaports is an important factor that can impact trade flows between countries. Maritime ports in South Asia are usually congested, which causes significant delays in shipments. This prevents the exporters from providing “just in time delivery” [Otsuki, Honda, and Wilson (2013)].

3.4. Port Infrastructure

Table 9 shows scores for quality of port infrastructure of SAARC and ASEAN countries, Sri Lanka has the most developed port infrastructure in the region with a score of 4.30, whereas Bangladesh has the poorest infrastructure amongst non-landlocked countries in South Asia. This is due to the ports at the Bay of Bengal having considerably poor productivity compared to other ports in the region, mainly due to mismanagement and smaller vessels. In fact, Chittagong, which is the main port of Bangladesh, is arguably the least productive port in the world amongst those that handle the same number of containers.⁴ This might explain the high documentary and border compliance times and costs for Bangladesh.

Table 9

Quality of Port Infrastructure, WEF (1=Extremely Underdeveloped to 7=Well Developed and Efficient by International Standards)

Country	2014	2015	2016
Afghanistan	–	–	–
Pakistan	4.4	4.08	4.1
India	4	4.21	4.2
Bangladesh	3.7	3.56	3.6
Nepal	2.2	1.56	1.6
Sri Lanka	4.2	4.28	4.3
Maldives	–	–	–
Bhutan	2.1	1.83	1.8
SAARC	3.43	3.25	3.27
Indonesia	4	3.81	3.8
Malaysia	5.6	5.57	5.6
Cambodia	3.6	3.71	3.7
Lao PDR	2.6	2.18	2.2
Philippines	3.5	3.22	3.2
Thailand	4.5	4.49	4.5
Myanmar	2.6	2.62	2.6
Singapore	6.7	6.66	6.7
Vietnam	3.7	3.91	3.9
Brunei Darussalam	–	–	–
ASEAN	4.09	4.02	4.02

Source: World Development Indicators.

⁴Revitalising Industrial Growth in Pakistan: Trade, Infrastructure, and Environmental Performance 2014.

Comparing Pakistan's and India's quality score, 4.1 and 4.2 respectively, with that of Malaysia shows that the latter has a much higher port quality score of a 5.6 which when coupled with its 24 ports (World Port Source) compared with Pakistan's 4 (Sea Rates) might be the cause of the difference in costs and time it takes to import and export.

The average score for South Asian countries is 3.27, which is considerably lower than the average score of ASEAN countries at 4.02. Ports with insufficient capacity, older technology, and poor management result in higher trade and transportation costs. These costs are reflected in charges of shipping companies, and storage costs.[Abe and Wilson (2011)]. Empirically it was found that improvement in port infrastructure of both importing and exporting countries can significantly reduce transportations costs. The effect was larger for improvement in exporting country's port infrastructure [Wilmsmeier, Hoffmann, and Sanchez (2006)]. Thus, it can be said that improvement in port infrastructure of South Asian countries can help increase regional trade-flows by lowering trade costs.

3.5. Road Infrastructure

Road transport is the most widely used mode of freight movement in South Asia. In Pakistan, it accounts for more than 90 percent ton-km, in India 70 percent and in Bangladesh 60 percent.⁵ Therefore, properly developed extensive road networks and modern paved all weather roads are essential for low cost and high-speed movement of goods. Road density measures the of a country's total road length to the total area of the country. Higher density would mean greater connectivity within the country via land and therefore is likely to reduce costs associated with transportation of goods. It could also improve labour mobility, and can provide access to larger markets for rural producers. Higher road density can thus help increase the trade-flows of a country. Table 10 shows

Table 10

Road Density (km of Road per 100 sq. km of Land Area) 2010

	Road Density
SAARC	
Afghanistan	3.5
India	139.4
Pakistan	32.9
Sri Lanka	173.9
Bangladesh	N/A
Nepal (2008)	13.5
Bhutan	18
Maldives (2005)	29.3
Average(Excluding Bangladesh)	58.65
ASEAN	
Cambodia	21.88
Brunei Darussalam	53.1
Indonesia	25.01
Singapore	472.68
Malaysia	40.88
Myanmar	4.76
Lao PDR	16.71
Average	90.72

Source: World Development Indicators.

⁵ World Bank report "Trade and Transport Facilitation in South Asia 2008."

the road density of South Asian countries.⁶ Sri Lanka has the highest road density in the region followed by India. Afghanistan has the least developed network of roads with only 3.5 km of road per 100 square km land. The average road density for the entire South Asia region is just 58.5 km, which is considerably lower than the average of 90.72 km for ASEAN countries. A higher average road density could be one of the reasons why ASEAN countries have greater intra-regional trade as compared to SAARC, as less developed road networks limit access to markets for producers.

In an analysis of road infrastructure, it is also important to not only look at the road-density but also the quality of the roads. Modern roads are usually paved and allow for faster travelling and also reduce the risk of accidents. Paved roads significantly reduce the number of accidents and allow for safer travel whenever the traffic volume is higher than 250 vehicles per day [Zegeer, Stewart, Council, and Neuman (1994)]. Table 11 shows the percentage of total roads that are paved in SAARC countries. Interestingly, Sri Lanka, the country that has the highest road density in the region, has the least percentage of roads that are paved. The average for SAARC countries is only around 50 percent. Paved roads increase the speed with which goods can be transported and allow easier movement of goods in all weather conditions. Improving the quality of road-networks can reduce cost associated with insurance and could reduce delays in transportation of goods. Higher quality roads can also allow movement of goods in poor weather conditions, thereby reducing delays. Therefore, for improving the competitiveness of South Asian goods in regional markets, it is vital that the percentage of paved-road is increased.

Table 11

Roads, Paved (% of Total Roads) 2010

Country	Percentage
Afghanistan	36.4
India	53.1
Pakistan	72.5
Sri lanka	14.9
Bangladesh	–
Nepal(2008)	53.9
Bhutan	40.4
Maldives(2005)	100
Average	53.02

Source: World Development Indicators.

3.6. Rail Infrastructure

Another important part of trade-infrastructure is rail transport. Rail network is considered as the backbone of most economies in their effort to ensure an efficient transportation system that encourages trade in the region. Table 12 summarises the rail density and the total goods transported via rail to provide a better understanding of how rail is utilised for trade in both regions.

⁶ The latest data accessible online was of 2010, it is assumed that the pattern between ASEAN and SAARC countries has remained similar till date.

Table 12
Rail Density and Goods Transported

Region/Country	Rail Density		Goods Transported (Million Ton)	
	2008	2015	2008	2015
ASEAN				
Indonesia	2.58	2.58	4390	7166
Malaysia	5.07	6.85	1350	3071
Philippines	1.61	1.61		
Thailand	8.67	10.43	3161	2455
Vietnam	7.57	10.27	3910	4125.4
SAARC				
Bangladesh	21.78	22.16	870	710
India	21.30	22.21	521371	681696
Pakistan	10.11	12.01	6187	3301
Sri Lanka	23.33	23.12	135	

Source: World Development Indicators.

Table 12 provides comparison of railway infrastructure and goods transported through railways of ASEAN and SAARC for the year 2008 and 2015.⁷ The rail infrastructure is proxied by rail density which is the length of Km railway line per 1000 square kilometer. The goods transported through railway is measured in million tons. The table shows that rail infrastructure has slightly improved over time (from 2008 to 2015) in both regions. Similarly, the transportation of goods via rail has increased over time in ASEAN and in India from SAARC countries. The railway density is higher in SAARC countries compared to those in ASEAN.

The data shows that the goods transported through railways increased in ASEAN region excluding Thailand. Whereas in South Asian countries, transportation of goods via rail has decreased, except for India. In 2008, goods carried by Indian railways were greater than the aggregate of good transported by the railways of all other countries of both regions. One obvious reason for this absolute difference is that India is the third largest economy (2016) in the world⁸ in terms of GDP-(PPP). The goods carried by Indian railways increased by 30.75 percent during this period (from 2008 to 2015). Surprisingly, the rail density in Indonesia⁹ remained the same from year 2008 to 2015 but transportation of goods through railways increased (63.23 percent) from 4390 million tons in 2008 to 7166 million tons in 2015, only India had a greater volume of goods transported via rail in 2015. This shows that Indonesian railway authorities have been successful in strategically attracting the business community towards transportation of their commodities via rail. Similarly, In Malaysia, transportation of goods via rail increased by 127.48 percent between this period. On the other hand, the situation in Pakistan does not look very bright. The table shows that even though rail density has increased by nearly 2 km, the freight carried by railways decreased dramatically from 6187 million tons of goods in 2008 to only 3301 million tons' in 2015. The analysis

⁷ Countries for which data was available.

⁸ http://databank.worldbank.org/data/download/GDP_PPP.pdf

⁹ http://databank.worldbank.org/data/download/GDP_PPP.pdf

clearly shows that more developed countries in ASEAN region have increased the utilisation of rail for freight transportation, maximising the potential benefits of rail transportation. South Asian economies on the contrary have reduced their dependence on rail, except for India, arguably due to deteriorating standards of railway networks that were developed decades ago by the British.

From Table 12, it is observed that rail density of India was nearly 1.85 times greater than Pakistan during year 2015 and freight carried by Indian railways was 206.5 times greater than Pakistan railways freight carriage. These numbers were 2.15 and 84.27 respectively during the year 2008. Amongst several reasons that may have contributed to the decline of Pakistan railways, some of the more dominant ones are political interference in decision making, untrained human resources, run down infrastructure i.e. no focus on maintenance, and ambiguous business plans [PILDAT (2015)]. In Pakistan, the development of road infrastructure became the priority of the governments over the time which resulted in further negligence of railway system. Ahmed (2011) disclosed that when the motorway's cost was estimated at Rs 24 billion, at the same time the railways proposed its entire upgradation plan costing Rs 10 billion. The proposal of railways was rejected by the government because motorway was seen as a mark of progress.

Rail network as stated earlier is still a vital mode for domestic freight movement in India and has potential in other SAARC countries. However, the productivity of entire South Asian railways at present is below its potential.¹⁰ One major impediment to trade through rail in the region is the political relationship between India and Pakistan. The trade on Lahore-Amritsar rail route is no way near its total potential due to the restrictions imposed by both countries on the items that can be traded through rail. For example, Pakistan does not allow cotton to be traded via this route [Taneja (2007)] which means that cotton importers near Lahore must bear extra-costs for importing cotton via other routes. The effect of custom policies and poor management on lowering the potential of rail as a mode of freight movement in the region can be judged by the fact that, although the distance between the two cities is only 50 kilometers, it can take 60-90 days to move a railway wagon to Amritsar from Lahore [Sanchez-Triana, *et al.* (2014)].

3.7. Telecommunication Infrastructure

In the past decade, the improvement in information technology and its widespread use has brought improved telecommunication as a source of trade facilitation into focus. Telecommunication infrastructure impacts the cost of communication between countries, as well as the cost of gathering and processing information. For example, a country where access to internet is limited, it would be difficult for traders to get information on government policies and custom procedures etc. An example of benefits from a more developed telecom infrastructure is Pakistan customs, where due to implementation of a computerised system, custom clearance times have been reduced by 3-4 days at Karachi International Container Terminal. Table 13 shows the number of subscribers to mobile phone per 100 people in South Asia. The average of South Asian countries is considerably below ASEAN countries. Similarly, the percentage of the population which uses the internet for which the average for SAARC is only 28 percent, whereas for

¹⁰ World Bank Report "Trade and Transport Facilitation in South Asia 2008."

ASEAN countries it is almost 48 percent. Improving telecommunication infrastructure and increasing access to internet and mobile phones could have a positive impact on intra-regional trade in South Asia. Greater access will lead to higher connectivity with traders across borders, low cost information access, as well as access to larger markets for exporters through e-business.

Table 13

Telecommunication Infrastructure

Country Name	Mobile Phone Subscriptions (per 100 People)	Individuals Using the Internet (% of Population)
Afghanistan	66	10.6
Pakistan	71.4	15.5
India	87	29.5
Bangladesh	77.9	18.2
Bhutan	88.8	41.8
Maldives	223	59.1
Nepal	111.7	19.7
Sri Lanka	118.5	32.1
SAARC	105.5	28.3
Indonesia	149.1	25.4
Malaysia	141.2	78.8
Thailand	172.6	47.5
Vietnam	128	46.5
Singapore	146.9	81
Brunei Darussalam	120.7	75
Lao PDR	55.4	21.9
Myanmar	89.3	25.1
Philippines	109.2	55.5
Cambodia	124.9	25.6
ASEAN	123.7	

Source: World Development Indicators.

4. CONCLUSIONS AND WAY FORWARD

The analysis of infrastructure and custom procedures of South Asian countries revealed important deficiencies in these areas. To improve trade facilitation in the region and increase integration amongst SAARC countries, it is vital that these shortcomings are addressed. Road, rail, ports and communication infrastructure are all under-developed in the region, which increases the costs incurred by producers and make products less competitive for intra-regional trade. India has a central role to play for facilitating trade in the region because it is the largest economy in the region, and has a central location. It is important to note that improvement in infrastructure and customs procedures alone may not be sufficient for greater integration amongst South Asian countries and there is a need to adjust trade policies as well. An example of this is the rail route between Lahore and Amritsar. Although the rail track is adequate for movement of a large number of goods,

trade policies of India and Pakistan along with difficult custom procedures make this route less productive than its actual potential.

Developing inter-urban highways and allowing cross-border movement of trucks could also be a way of facilitating trade. Cross border truck movement is not allowed in South Asia, only Nepal allows Indian trucks for 72 hours. As trucks are the dominant mode of domestic freight movement in the region, allowing cross-border truck movement can also be fruitful for increasing intra-regional trade.

Computerised and simplified custom procedures, such as reducing the number of documents can also play a key role in facilitating trade. Such process changes may reduce border clearance times by days at relatively lower costs compared to improving highways. In conclusion, it could be said that greater regional integration could be achieved if the relevant authorities could liberalise trade policies, invest in infrastructure, and ease the custom requirements in the region. Lower transaction costs of trade could result in increased productivity and greater regional trade-flows, which in turn could bring growth and prosperity in South Asia. However, it is imperative to highlight that the most important factor that will determine the direction of South Asian integration is the will of the government to implement these changes and to cooperate with regional economies to improve trade integration in the region.

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