A Report on

A study on the Gaps of Nepalese Logistics Service Provider

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Submitted to:
Nepal Intermodal Transport Development Board (NITDB)
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Government of Nepal

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Table of Contents

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Mr. Sunil KC
Founder
Asian Institute of Diplomacy and International Affairs (AIDIA)

LIST OF ABBREVIATIONS:

1LP: First-party Logistic Provider.
2LP: Second-party Logistic Provider.
3LP: Third-party Logistic Provider.
4LP: Fourth-party Logistic Provider.
5LP: Fifth-party Logistic Provider.
AI: Artificial Intelligence.
BBIN: The Bangladesh, Bhutan, India, Nepal Initiative.
CAAN: Civil Aviation Authority of Nepal.
FAPPA: Federation of Asia Pacific Aircargo Associations.
FIATA: International Federation of Freight Forwarders Associations.
FTTEN: Federation of Truck Transport Entrepreneurs, Nepal.
GoN: Government of Nepal.
IATA: International Air Transport Association.
ICD: Inland Container Depot.
ICP: Integrated Check Post.
ICS: International Chamber of Shipping.
IMO: International Maritime Organization.
IRU: International Road and Transport Union.
IT: Information Technology.
LLDC: Landlocked Developing Country.
LLS: Landlocked State.
LPI: Logistics Performance Index.
LSP: Logistic Service Provider.
MoICS: Ministry of Industry, Commerce and Supplies.
MT: Multimodal Transport.
NEFFA: Nepal Freight Forwarders Association.
NITDB: Nepal Intermodal Transport Development Board.
NRB: Nepal Rastra Bank.
SCM: Supply Chain Management.
TEU: Twenty-foot Equivalent Unit
TIA: Tribhuvan International Airport.
TIR: Transports Internationaux Routiers.
UIC: International Union of Railways
UN ESCAP: United Nations Economic, Social and Cultural Programme.
WTO: World Trade Organization.

EXECUTIVE SUMMARY

The logistic service providers (LSPs) are an integral component of the supply chain. Acting mostly as intermediaries, they are responsible for the transport, storage and delivery of goods, ensuring that all of it is done in a cost and time effective manner. Nepal, as a landlocked developing country (LLDC), faces several challenges adapting to the evolving trade environment owing both to its geographical structure and the tenacious bottlenecks that exist within the supply chain networks. Post trade liberalization, Nepal sought to diversify its economic relations within the immediate region and beyond. The fact that it was a landlocked state further meant that it was dependent, and overtly so, on the transit agreements as well as the clarity of its own developmental policies to secure its economic interests in the rapidly globalizing world order. The role of LSPs within this was to ease the process of trade. However, in practice, this has been a hefty objective for the concerned actors and the overarching institutions to achieve. The report sought to broadly understand the apparent capacity gaps of the LSPs, paying heed to their overall role within the supply chain in Nepal, further emphasizing the institutional and infrastructural constraints that these entities face, lastly, providing some recommendations to address them.

Key Findings: Understanding the Challenges

Nepal has signed a number of agreements with its neighbors for transit purposes, and has attempted to bring **policies** to ensure that the movement of goods happen in an orderly fashion. The issue lies in the enaction of such policies and the timely revision of the documents, keeping in mind the changing dimensions of domestic, regional and global interests when looking at trade. The Multimodal Transportation of Goods Act of 2006 in this instance, requires a review within this consideration, as new endeavors like the BBIN (Bhutan-Bangladesh-India-Nepal) initiative gains a foothold in the greater public and political imaginings of enhancing regional connectivity, building prospects of integrated trade between the nations. Likewise, the new Trade Logistics Policy, 2022, would need a careful enactment keeping in mind the criticisms of experts regarding a clarity of country-specific concerns that need to be addressed. The laws that may build-up from such policies need a sense of precision, responding to the current trends within the trade and logistics sector. For the local LSPs, the concern also lies deeper in the basic institutional responses, and the lack of integration within them. As such, there is also a sense of trust deficit between such

entities and the LSPs on the ground. A lack of understanding and fragmented information sharing between them has also been observed.

In a similar vein, the local LSPs are also more or less **learning on the go**. There is a lack of formal training and platforms for LSPs to engage and continuously build their understanding of the evolving field. Hence, **sector-wise segregation** of the roles and responsibilities within general standard processes and as per the global regulations and commitments are also lacking when gauging the functional scope of the actors within the trading and logistics sphere.

When looking at the **infrastructural** scope, Nepal ranked 114 out of 164 countries on the Logistics Performance Index of the World Bank in 2018, indicating that while the country had attempted to fill in some of the identified logistics gaps, it still has some way to go. The infrastructural challenges are also a limiting factor for the LSPs when calculating their functional capacities on the whole. Congestion along the traffic points, insufficient warehouse management, lack of storage facilities and labs at border points, the need for automation and incorporation of block chain systems, to name a few, all serve to limit the functional capacity of the LSPs.

Identified Pathways

Through the course of research, it has also been perceived that most local actors within the supply chain also require some form of specialized knowledge and guidance in a field that is constantly changing due to various factors, including technological advancements. A formal platform of association between private and public actors, including foreign entities within the logistics sector, for training and experience sharing may help the LSPs in this regard to optimize their performance. The report has, therefore, recognized the importance of:

i) reviewing and revising the relevant policy frameworks,
ii) building trust and communication between the concerned entities,
iii) automation of the logistics sector,
iv) ensuring formal trainings, providing up-to-date knowledge of the specialized and developing role of an LSP, the shifting dimensions of the logistics sector and the prospects that the change holds - improving one's professional competencies, and accepting the principles of life-long learning.
v) building strong data sharing channels amongst the actors – All the while gauging the regional and global movements in the field.

INTRODUCTION

- *Who are the Logistic Service Providers?*

As supply chains evolve and impact the trends of international trade in the 21st century, states have been progressively working towards securing their economic interests within the intricate tapestry. Interdependent networks demand cohesion within policy agendas that can guide the connectivity frameworks. With globalization, outsourcing and increased fragmentation of supply chains coupled with concerns for quality, big multinationals and businesses alike seek to work in places with suitable transport and logistic infrastructure.[1]

Logistics refers to the "the network of services that support the physical movement of goods, trade across borders, and commerce within borders,"[2] and while there is no uniformly agreed definition of who logistic service providers are and what they do,[3] in broad terms LSPs are "companies which perform logistic activities on behalf of others".[4] The aforementioned network is responsible for the provision of a wide range of services ranging from transporting goods, warehouse storage to quality-assured delivering. The main objective for these firms is "to reduce delays and disruptions in the supply chain, inventory-holding costs, depreciation costs as well as handling costs."[5]

LSPs are generally divided into five categories based on the array of services they ascertain the companies,[6]

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[1] Juan Blyde and Danielken Molina, "Logistic Infrastructure and the International Location of Fragmented Production," *Journal of International Economics* 95, no. 2 (2015).
[2] "Connectivity, Logistics & Trade Facilitation: Facilitating Trade at the Border, Behind the Border, and Beyond," The World Bank, accessed September 1, 2023, https://www.worldbank.org/en/topic/trade-facilitation-and-logistics.
[3] "Mapping of Logistic Services," UNESCAP, accessed August 30, 2023, https://www.unescap.org/sites/default/files/Logistics_policy_ch2.pdf.
[4] Werner Delfmann, Sascha Albers and Martin Gehring, "Impact of Electronic Commerce on Logistic Service Providers," *International Journal of Physical Distribution & Logistics Management* 32, no. 3 (2002): 204. https://edisciplinas.usp.br/pluginfile.php/5012364/mod_resource/content/1/Delfman%20et%20al%20%282002%29.pdf
[5] Blyde & Molina, "Logistic Infrastructure and the International Location of Fragmented Production," 319.
[6] Hasna Bouchette, et.al., "Analysis of the Logistics Service Provider/principal relationship: In the light of innovation as a LSP strategy," last modified April, 2018, https://www.econstor.eu/bitstream/10419/179997/1/ofel-2018-p269-287.pdf; Peter Hosie, Victor Egan and Ying Li, "Drivers of Fifth Party Logistics (5pl) Service Providers for Supply Chain Management," last modified 2007, https://espace.curtin.edu.au/bitstream/handle/20.500.11937/32458/151991_27312_58920.pdf?sequence=2; Abby Jenkins, "What Is a Logistics Service Provider (LSP)? Types and Services Offered," *Oracle*, last modified April 3, 2023, https://www.netsuite.com/portal/resource/articles/inventory-management/logistics-service-providers.shtml

a. First-Party Logistics (1PL): An individual or a company that sub-contract services, without involving separate entities beside the cargo sender and cargo receiver (or the customer). These firms, therefore, operate along the chain with their own storage system and transportation, and this is referred to as in-house logistics.

b. Second-Party Logistics (2PL): Services relating to storage and transportation through a separate carrier service. They are typically asset-based companies, looking at the "physical transportation needs"[7] of a company, through the various available means, like working through shipping lines or airlines.

c. Third-Party Logistics (3PL): Provides outsourced or logistics services that range from the basic picking, storing and distribution to service developers, customer adapters and customer developers. The services provided by 3PL came into greater demand with the organizations moving into "foreign markets and globalized their supply chains and sources of materials."[8] Thus, as typified by Bergund et. al., third party LSPs can be further categorized as: a) Asset-based LSPs, b) Network logistics providers, and c) Skill-based LSPs.[9]

d. Fourth-Party Logistics (4PL): The supply chain management (SCM) and logistics is outsourced to a single LSP.[10] Christopher argued that four essential components define the 4PL service: "systems architecture and integration skills, supply chain 'control room', ability to capture and utilize information and knowledge across the network," and "access to ´best of breed' asset providers."[11] One of the most popular examples used when speaking of 4PL is Amazon.

e. Fifth-Party Logistics (5PL): 5PL came about due to innovation and IT advancements in global trade, integrating virtual services and becoming an "info-mediary."[12] The service providers manage multiple clients, providing them with logistics solutions and "serve third-

[7] Satya Prakash Tripathi, "Perspectives on Logistics Outsourcing," *Journal of Critical Reviews* 7, no. 15 (2020): 3788. https://www.jcreview.com/admin/Uploads/Files/61dec9849d5c42.62548915.pdf

[8] Edward J. Anderson, Tim Coltman, Timothy M. Devinney and Byron Keating, "What Drives the Choice of a Third-Party Logistics Provider?" *Journal of Supply Chain Management 47*, no. 2 (2011): 97-98. https://doi.org/10.1111/j.1745-493X.2011.03223.x

[9] Magnus Berglund, Peter van Laarhoven, Graham Sharman and Sten Wandel, "Third-party Logistics: Is There a Future?" *International Journal of Logistics Management 10*, no. 1 (1999): 59–70.

[10] "What is Fourth-Party Logistics," GEP, last accessed September 2, 2023, https://www.gep.com/knowledge-bank/glossary/what-is-fourth-party-logistics

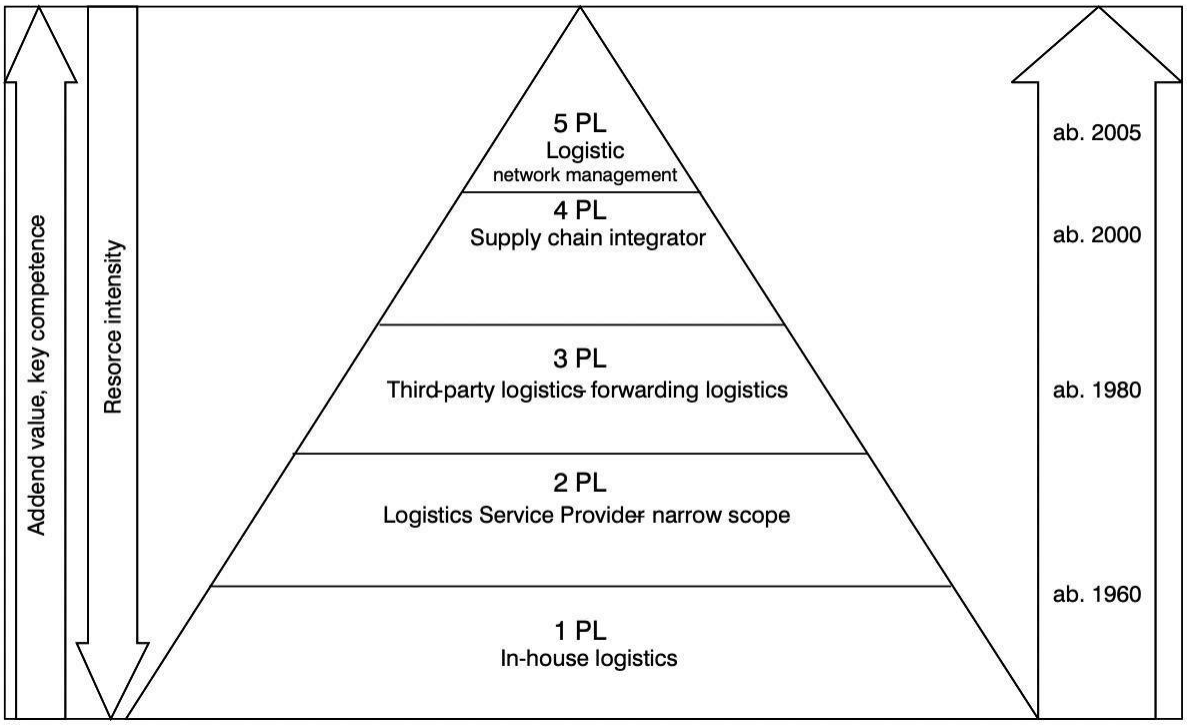
[11] Martin Christopher, *Logistics & Supply Chain Management*, (Harlow: Pearson Education Limited, 2011), 224.

[12] Tripathi, ""Perspectives on Logistics Outsourcing," 3788.

party logistics companies by acting as logistics aggregators and they aggregate third-party logistics demands into bulk volumes for more favorable rates."[13] 5PL are driven due to three main factors: progressive practice of outsourcing SCM, increased use of technology (IT) and the evolving setting of services given by LSP.[14]

The figure below illustrated the evolution of the forms of outsourcing:

Figure 1: Forms of Outsourcing LSs.



Source: Koźlak, 2009, in ed. Burnewicz, et. al., Innovative Perspective of transport and logistics, p. 128. [15]

[13] "Fifth-party Logistics Market by Type (Transportation, Warehousing, and Other Services) and Application (E-commerce, Traders, Logistics Company, and Others): Global Opportunity Analysis and Industry Forecast, 2025-2035," Allied Market Research, last modified February, 2022, https://www.alliedmarketresearch.com/fifth-party-logistics-solution-market-A14785#:~:text=Fifth%2Dparty%20logistics%20provider%20is,on%20behalf%20of%20multiple%20clients

[14] Peter Hosie, Balan Sundarakani, Albert Wee Kwan Tan and Aleksandra Koźlak, "Determinants of Fifth Party Logistics (5PL): Service Providers for Supply Chain Management," *International Journal of Logistics Systems and Management 13*, no. 3 (2012): 295-303.

[15] Jan Burnewicz, Robert Tomanek, Piotr Niedzielski, and Sylwia Pangsy-Kania, *Innovative Perspective of Transport and Logistics* (Gdańsk: Wydawnictwo Uniwersytetu Gdańskiego, 2009): 128. https://www.researchgate.net/publication/308785755_Innovative_perspective_of_transport_and_logistics

In the case of Nepal, LSPs have been (unofficially) carrying out functions that relate to the various categorizations, however, there is a distinct lack of understanding that corresponds to their roles – or rather the specification regarding it.

- *Impact of Current Trends*

Modern developments in technology impacts SCM, and has further entailed that LSPs have been looking towards digitizing and enhancing their capacities. As per research done by Gartner that surveyed around 500 experts engaged in the supply chain, 38% of establishments were interested in optimizing their services and almost half were looking to invest in Artificial Intelligence (AI) by the end of 2024.[16] The recent decade has offered numerous innovative solutions within logistic technology and has encompassed a variety of opportunities for enterprises ranging from transport management Systems (TMS), cloud-based logistics, introduction of blockchain to advancements in AI, and automation.[17] Several barriers in the forms of "(1) complexity of the logistics system and underlying processes, (2) lack of resources including skilled resources, (3) technology adoption, (4) resistance to change and (5) data protection," do exist.[18]

Furthermore, developing countries face a separate set of challenges in incorporating these advancements. In the case of Nepal, automation is required for the industry. An integrated automated system is something that is in demand right from the origin of freight until it is delivered at the importer's premises. Such an integrated automated system shall enable government agencies not only to monitor the flow of goods but also relay financial involvements and right price to the market which will have a direct relationship to the livelihood of citizens and right tax collection. The use of modern technologies in logistics is becoming more common and major technological changes have a significant impact on logistics activities. The wide application of intermodal and multimodal cargo transportation, implementation of modern applied information technologies, Electronic Data Interchange (EDI), Radio Frequency Identification (RFID) and e-business, enables

[16] "Top 8 Supply Chain Technology Trends," Gartner, last accessed September 4, 2023, https://www.gartner.com/en/supply-chain/role/it-leaders

[17] Andrew Burak, "Keeping Pace with the Future: Top Technology Trends in Logistics," *Relevant*, last modified April 21, 2023, https://relevant.software/blog/keeping-pace-with-the-future-top-technology-trends-in-logistics/#What_is_Logistics_Technology_and_Why_is_it_Crucial

[18] Marzenna Cichosz, Carl Marcus Wallenburg and A. Michael Knemeyer, "Digital Transformation at Logistics Service Providers: Barriers, Success Factors and Leading Practices," *The International Journal of Logistics Management 31*, no. 2 (2020): 219. https://www.emerald.com/insight/content/doi/10.1108/IJLM-08-2019-0229/full/html

logistics service providers to work more closely on a collaborative basis with other supply chain partners like the

- Port, dry port, freight station and integrated check posts Management.
- Warehouse Management.
- Transportation Management.
- Distribution Center.
- Courier Service.
- Brokerage Services.
- Insurance management.
- Quality certification services.
- Cold chain management.
- Fulfilment Center.

Coupled with these progresses in IT and e-business, are emerging environmental, political and legal trends, with trade agreements, ecological concerns and geopolitical maneuverings impacting the global supply chain. Wirsing reasoned that globally institutions have been geared towards ascertaining green transformation with 53% looking towards sustainable sourcing, and looking towards making the zero-carbon shipping as well as introducing megawatt charging to power the electric trucks.[19]

- *Role of LSPs*

LSPs are a vital part of the global trade structures. As Skender et. al., note that such entities act as intermediaries and the varying LSPs work within their own capacities, depending on whether they are global freight forwarders (FF), 3PL, 4PL or 5PL, as mentioned in detail in the section above.[20] The figure below showcases the overall scope of the logistics:

[19] Erik Wersing, "2023 Major Logistics Trends: Shaping the Future of Logistics," last modified January 2023, https://blog.dbschenker.com/5-major-logistics-trends/

[20] Helga Pavlic Skender, Alen Host and Melisa Nuhanovic, "The Role of Logistics Service Providers In International Trade," "The Role Of Logistics Service Providers In International Trade," *Business Logistics in Modern Management, vol. 16* (2016): 21-37.

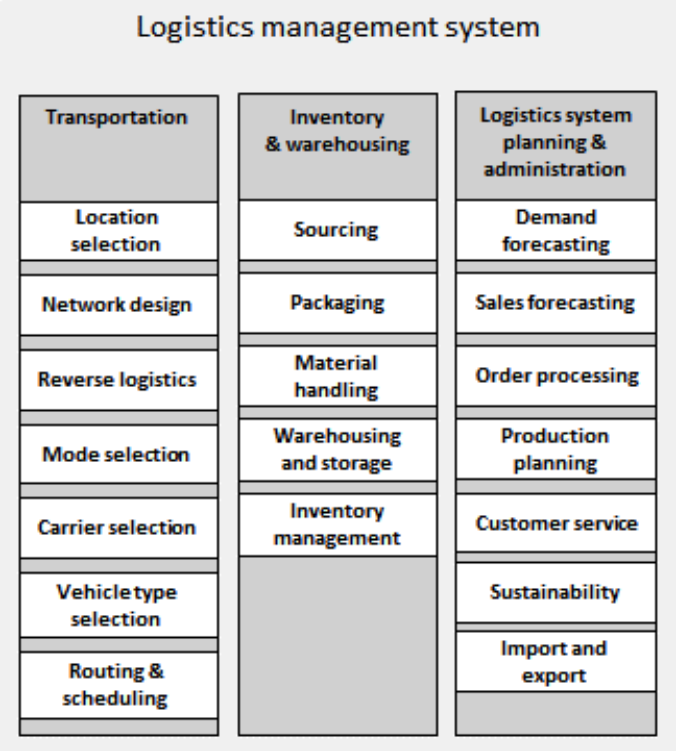


Table 1: Framework of functional area of Logistics.
Source[21]: Tavasszy et. al., 2020, p. 77.

UNESCAP, notes that various interpretations exist for the role of LSP, and beyond the typical comprehension of such entities focusing primarily on freight forwarding, transport and warehouse storage, logistic services often also looks into assembly, quality control, finance and customer services.[22] Working within a constantly evolving sector, they further work towards assuring document support for financial and commercial purposes, and manage warehouses along their processes.[23]

During the shipment activities the entities involved also follow the *Incoterms*, or International Commercial Terms:

[21] L.A. Tavasszy, Michiel de Bok, Zahra Alimoradi and Jafar Rezaei, "Logistics Decisions in Descriptive Freight Transportation Models: A Review," Journal of Supply Chain Management Science 1, no. 3-4 (2020): 77. http://dx.doi.org/10.18757/jscms.2020.1992
[22] "Mapping of Logistics Services," *UNESCAP*, last accessed September 2, 2023, https://www.unescap.org/sites/default/files/Logistics_policy_ch2.pdf
[23] Ritu Raj Pankaj, "Roles and Duties of Logistic Service Providers," *Medium*, last modified September 13, 2022, https://medium.com/@awlindiaprivatelimited/roles-and-duties-of-logistic-service-providers-4dc52e19217c

"a set of 11 individual rules issued by the International Chamber of Commerce (ICC) which define the responsibilities of sellers and buyers for the sale of goods in international transactions. Of primary importance is that each Incoterms rule clarifies the tasks, costs, and risks to be borne by buyers and sellers in these transactions."[24]

It has broadly been defined in the table:

Table 2: List of Incoterms:

INCOTERMS	
INCOTERMS FOR ANY MODE OR MODES OF TRANSPORT	Ex Works (EXW) Free Carrier (FCA) Carriage Paid To (CPT) Carriage and Insurance Paid To (CIP) Delivered at Place (DAP) Delivered at Place Unloaded (DPU) Deliver Duty Paid (DDP)
INCOTERMS FOR SEA TRANSPORT	Free Alongside Ship (FAS) Free on Board (FOB) Cost and Freight (CFR) Cost, Insurance and Freight (CIF)

Within general observation, Nepal has not followed any of these. So, there have been concerns that when the international trading terms are not equally tracked amongst the trading partners and LSPs, there are chances of fraud in the logistics sector.

[24] "Know Your Incoterms," *Official Website of the International Trade Administration*, last accessed September 29, 2023, https://www.trade.gov/know-your-incoterms#:~:text=The%20Incoterms%C2%AE%20are%20a,of%20goods%20in%20international%20transactions.

- *Scope of Services Offered in Nepal*

Export promotion requires the enhancement of logistic services.[25] The impact of external shocks like COVID-19 and natural disasters like the 2015 earthquake, furthermore, showcases the sensitivity of the sector in responding to such external shocks. In the case of the former, Nepal's Logistics Cluster noted in a 2020 report that the two lockdowns during the pandemic had interrupted the "national and international transport systems, affecting the ability of government and humanitarian workers to respond."[26]

Logistics plays an important role for businesses and manufacturers alike, with the former looking for transportation, inventory and location and the latter additionally focusing on standards of customer service as well as sourcing raw materials, and this in turn becomes significant for companies to have logistic-oriented strategies.[27] As per the Ministry of Industry, Commerce and Supplies (MoICS), there are 116 freight forwarders that are members of the Nepal Freight Forwarders Association (NEFFA). [28] These entities offer many of the functions described within the categorical division of the LSPs, but few are aware of the formal nuances.

Means and Mode of Transportation for LSPs: Transport and transport infrastructure in particular is vital for an LLS. There are three main areas to consider in this regard, as described by Ojha:[29]

a) Road Transport: Roads that link the markets, localities and industrial centers are essential for Nepal owing to its geographical structure. 90% of commuters and goods passes through Nepal's roadways.[30] The state has India cradling its borders towards the South, East and

[25] Pushpa Raj Rajkarnikar, "Adequacy and Effectiveness of Logistic Services in Nepal: Implication for Export Performance," last modified April, 2010, https://www.unescap.org/sites/default/files/AWP%20No.%2079.pdf

[26] "Nepal National Logistics Cluster Common Service - 7 Month Situation Report for COVID-19 Response: 19 November 2020," *Reliefweb*, last modified December 4, 2020, https://reliefweb.int/report/nepal/nepal-national-logistics-cluster-common-service-7-month-situation-report-covid-19

[27] James L. Heskett, "Logistics—Essential to Strategy," *Harvard Business Review*, last modified November, 1977, https://hbr.org/1977/11/logistics-essential-to-strategy

[28] "Freight Forward," *Government of Nepal, Ministry of Industry, Commerce and Supplies*, last accessed September 4, 2023, http://www.tepc.gov.np/pages/freight-forward

[29] Purushottam Ojha. "Nepalese Experience in Liberalization of Trade Logistics Services," last accessed Spetember 24, 2023, https://aero-shiplogistics.com/wp-content/uploads/Liberalization-of-trade-logistics-services1.pdf

[30] "Roads Enhance Connectivity and Create Opportunities in Isolated Hills in Nepal," *Asian Development Bank*, last modified March 17, 2023, https://www.adb.org/results/roads-enhance-connectivity-create-opportunities-isolated-hills-nepal#:~:text=For%20landlocked%20Nepal%2C%20roads%20are,economic%20opportunities%2C%20and%20social%20services.

West, while towards the North the Tibetan Autonomous Region (TAR) bounders it. There are 18 primary roads in Nepal, with medium trucks with a capacity of ten-ton payload travelling along "over two-lane asphalt roads at relatively low average speeds, in the range of 200 to 400 km per day," but limited in movement due to the condition and terrain in which they operate.[31] Additionally, trucks that are overfull and carry bulk goods result in further damage of the roadways, and most trucks utilized for transport across borders generally carry 18 metric tons of load.[32] The Federation of Truck Transport Entrepreneurs, Nepal (FTTEN), an NGO, in coordination with the District Administrative Office and the District Technical Office oversee the transport rates in distant regions, while the Government of Nepal decides the standard rates for trucking routes throughout the country.[33]

Table 3: Province-wise Major Roadways.

Province	Roadways
Province 1	The major East-West: Mahendra Highway from Kakkarbhitta; Koshi Highway linking Biratnagar-Myanglung; Mechi Highway connects Jhapa and Taplejung; and Sagarmatha Highway connects Solukhumbu to Kadmaha in Province 2.
Province 2	The East-West Highway runs across the province; Tribhuvan Highway connects it with Kathmandu and India,
Bagmati Province	Tribhuvan Highway (also called "The Gateway of Nepal") connects Birgunj along Indian border; Araniko Highway connects to Kodari lining the Nepal-China borer; Prithvi Highway connected Kathmandu via Dhadhing with Pokhara; BP Koirala Highway (Banepa-Bardibas Highway) connects Kathmandu to Province 2.

[31] "Nepal Road Network," *Logistics Cluster*, last modified 2022, https://dlca.logcluster.org/23-nepal-road-network#id-2.3NepalRoadNetwork-Overview
[32] Ibid.
[33] "Nepal Transporters," *Logistics Cluster*, last modified 2022, https://dlca.logcluster.org/32-nepal-transporters

Gandaki Province	Siddhartha Highway links the province to Provice 5 linking Siddharthanagar along Nepal-India border to Pokhara.
Province 5	Rapti Highway provides access to the hilly areas of the country, Ratna Highway connects the province to Karnali, Mahendra Highway links Province 5 to Bagmati to the east and Sudurpashchim to the west.
Karnali Province	The Ratna highway with Bardiya connects to the Karnali Province, and the East-West Highway is the major connecting line for the province.
Sudurpashchim Province	The East-West Highway stretches across the province as a "life-line," but floods and landslides often hinder access during the monsoons.

Source: "Nepal Road Network," *Logistics Cluster*, 2022. [34]

b) Railways: Two railway lines, Jainagar-Janakpur and Raxaul-Sirsiya are managed under the Department of Railways in Nepal. A bilateral agreement was signed between Nepal and India in 2004 for managing a railway connecting Birgunj with Haldia and Kolkata ports, with a condition that the Container Corporation of India Limited (CONCOR) would have the only right to transport cargo to Nepal.[35] The document was revised recently in 2021 with a letter of exchange that allowed private container trains from both the countries to operate along the line, concluding CONCOR's monopoly within the sector.[36] The Birgunj Internal Clearance Depot (ICD), along Nepal's Province 2, is the primary terminal that is linked by the railway to India, with six full-rake sidings and carries over 20,000 twenty-foot equivalent unit (TEU), annually.[37] A railway project (the Kerung-Kathmandu railway) that links Tibet and Nepal across a difficult terrain has also been publicized in recent years, for which a feasibility study is yet to be done.[38]

[34] Ibid.
[35] "India's CONCOR Enjoys Monopoly in Transporting Goods to Nepal," *New Business Age*, last modified December 28, 2020, https://www.newbusinessage.com/Articles/view/12861
[36] Anil Giri, "Revised Railway Service Deal with India to Facilitate Nepal's Trade, Officials Say," *The Kathmandu Post*, last modified July 4, 2021, https://kathmandupost.com/national/2021/07/04/revised-railway-service-deal-with-india-to-facilitate-nepal-s-trade-officials-say
[37] "Nepal Birgunj Dry Port," *Logistics Cluster*, last modified 2022, https://dlca.logcluster.org/212-nepal-birgunj-dry-port#id-2.1.2NepalBirgunjDryPort-BirgunjInlandContainerDepot(ICD)atSirsiya
[38] Ramesh Bhushal, "Nepal and China to Study Trans-Himalayan Railway," *Nepali Times*, last modified September 18, 2022, https://nepalitimes.com/news/nepal-and-china-to-study-trans-himalayan-railway

Table 4: Railway: Standard Route Information:

Standard Route Information		
	Jaynagar, India to Bijalpura, Nepal (Nepal Railway Overview)	**Raxaul, India to Sirsiya Inland Container Depot (or dry port/ICD) near Birgunj**
Track gauge	59 km of 762 mm (2 ft 6 in) gauge, narrow gauge	6 km (3.7 mi) Broad-gauge railway line
Total track distance (single and / or double)	59 km, Janakpur Railway: Jaynagar, India to Bijalpura, Nepal	6 km (3.7 mi), Raxaul, India to Sirsiya ICD, Nepal

Source: "Nepal Railway Assessment," *Logistics Cluster*.[39]

c) Air Transport: Nepal has inked air services agreements and MoU with 40 countries.[40] While air transport is significant in terms of connecting Nepal with the wider economic centers, it is also important for trade. The five busiest air cargo routes are Qatar, India, People's Republic of China (PRC), Hong Kong (SAR), China and Thailand.[41] As per *Trading Economics* in 2021, freight through air was noted at 17.31 million ton-km.[42] Thus far, the Tribhuvan International Airport (TIA) has offered designated terminal services for incoming air cargo, and multi-modal transport takes place within existing routes. It takes a minimum of two days to on board the plane if booking with airlines on time. For short destinations, it takes one day in transit time and for long destinations like Europe or the U.S., the time varies from 3 to 7 days, depending on the nature of the flight and different transit or transshipment points. Further, with the inclusion of two new international

[39] "Nepal Railway Assessment," *Logistics Cluster*, last modified 2022, https://dlca.logcluster.org/24-nepal-railway-assessment
[40] "BASA," *Civil Aviation Authority of Nepal*, last accessed September 23, 2022, https://caanepal.gov.np/air-transport/basa
[41] "The Importance of Air Transport to Nepal," *IATA*, last accessed September 4, 2023, https://www.iata.org/en/iata-repository/publications/economic-reports/nepal--value-of-aviation/
[42] "Nepal - Air Transport, Freight (million Ton-km), *Trading Economics*, last accessed September 24, 2023, https://tradingeconomics.com/nepal/air-transport-freight-million-ton-km-wb-data.html

airports: Pokhara (PIA) and Gautam Buddha (GBIA), their capabilities are yet to be fully explored. The sector is regulated by the Civil Aviation Authority of Nepal (CAAN).

The services offered by LSPs are diverse, as aforementioned within the typification of goods that need to be transported. Differing offered by LPS, in this regard has been illustrated in the table below:

Table 5: Functions of Service Providers in Nepal.

Type of Goods	Services Offered by LSPs.	Means and Modes of Transport.
Perishable Products: depending on the shelf-life, and the temperature-sensitive nature of the goods (food items).	1. Specific packaging. 2. Refrigerators, with generators for back-up.	Rail and air routes are utilized, though these types of goods are mostly transported by air due to their time and temperature-sensitive nature.
Dangerous goods (DG) and Hazardous Materials (HAZMAT).	1. Keeping the packaging requirement in mind, while gauging the inflammation degree. 2. Managing transport through specified routes by means of treaties with transit countries. 3. Storing facilities.	Routes have been specified through treaty mechanisms established between India and Nepal, specifically. Goods can be moved through roadways, but through mutual agreement between the countries, in compliance to safety protocols/mechanisms. Nepal Airlines Corporation (NAC) has also recently been cleared to transport hazardous goods through international flights.[43] The recent MoU on the Treaty of Transit (signed June 1, 2023, page 20) clarifies the mechanisms between Nepal and India.[44]
Big and Bulk Cargo (cement, coal, fertilizer, clink).	1. Storage and transport.	Railways are mostly utilized for big and bulk goods for cross-border movements. As per the aforementioned MoU, direct railways through Raxaul carries goods from the Kolkata/Haldia ports (page 13).

[43] "Nepal Airlines Corporation Permitted to Carry Hazardous Goods," *Business 360*, last modified December 6, 2021, https://b360nepal.com/public/nepal-airlines-corporation-permitted-to-carry-hazardous-goods

[44] "Treaty of Transit between the Government of India and the Government of Nepal," *GoN, MoICS,* last modified June 1, 2023, https://commerce.gov.in/wp-content/uploads/2023/06/MoU-Treaty-of-Trransit-dated-1-June-2023-1.pdf

		Tippers are also utilized for certain shipments.[45]

While the services are diverse local LSPs have reported a need of capacity assessment, post which, improvement of infrastructure, and updating the required policies need to be considered. This has been discussed in detail in the "*Gaps and Challenges"* section of the Report.

- *Governing Mechanisms and Bodies*

Being a landlocked developing country (LLDC), Nepal's foreign trade is dependent on the treaty mechanisms that guarantee it an access to sea ports as well as well managed transport infrastructure that facilitates the overall process. The LSP's are broadly governed by global, regional, and national frameworks. In the case of Nepal, the following documents play a significant role within logistics sector:

National Policy framework(s): The transit-trade agreements that Nepal has signed with India, Bangladesh, and recently also with China provides routes for third country trade. The domestic policies in turn looks to codify the working mechanisms of LSPs, and others actors within the SCM to ensure that trade happens in a cost- and time-effective manner. In the course of the research, two frameworks came under special consideration:

i) The Multimodal Transportation of Goods Act (MT Act), 2006: The act was developed to build the nation's capacity regarding trade and transport. With five chapters and 31 articles that provide provisions regarding licensing, documentation, delivery, conditions of liability, special provisions regarding handling of dangerous cargo, further allowing the GoN to frame its regulations accordingly.[46] There are serious considerations that need to be made within policy-making circles when considering the effectual enactment of this act. Certain private sector actors that sought to establish an institution under the act to bring the various actors like the freight forwards, shipping liners, and so on under a single, broad umbrella, also amounted to little because of scant membership, owing to the lack of government support and the inability to generate interest

[45] "Nepal Transporters," *Logistics Cluster*.
[46] "Multimodal Transportation of Goods Act, 2063(2006)," *Nepal Trade Portal*, last modified November 5, 2006, https://nepaltradeportal.gov.np/resources/docs/multimodal-transportation-of-goods-act-2063-2006.pdf

amongst the other entities. Also, with the changes in the trading structures of the South Asian region, the act has barely been revised or reviewed accordingly.[47]

ii) Trade Logistics Policy, 2022: 3 objectives were inked within the document: underscoring integrated trade infrastructure for logistics, strengthening SCM, and good governance, with 13 strategies related towards accomplishing such hefty goals.[48] The policy as such was devised with the aim to fill in the existing gaps regarding institutional cooperation, addressing the technological developments within the arena as well as "to maintain the uninterrupted supply system even in adverse situations of disasters and pandemics,"[49] – something that was greatly highlighted when measuring the capacities and working structures of LSPs when COVID-19, as a global pandemic, disrupted local and global transport systems and impacted the response of the state and humanitarian officials in the state.[50]

Several institutions have also been operational that look at the development and enaction of such policies, though coordination amongst them has been a long-standing issue. The Department of Commerce, Supply and Consumer Protection under the Ministry of Industry Commerce and Supplies, the Department of Transport Management under the Ministry of Physical Infrastructure and Transport, Road Board Nepal, Civil Aviation Authority of Nepal (CAAN), as well as, custom agents, Integrated Check Posts (ICP), Inland Clearance Depots (ICD) that are constructed in major border areas, Railway Department are all vital links that support the logistics sector.

The major challenges in implementing these documents are highlighted within the "*Gaps and Challenges*" section, and the roles of the actors have been described under the heading "*Actors in the Supply Chain*," of this Report.

[47] Krishana Prasain, "BBIN Motor Vehicles Pact Has a Bumpy Ride Ahead for Lack of Policies, Regulations," *The Kathmandu Post*, last modified June 8, 2022, https://kathmandupost.com/money/2022/06/08/bbin-motor-vehicles-pact-has-a-bumpy-ride-ahead-for-lack-of-policies-regulations

[48] "Brief Note on Trade Logistics Policy 2022," *Asian Development Bank*, last accessed September 4, 2023, https://www.adb.org/sites/default/files/linked-documents/54402-001-ld-04.pdf

[49] "Trade Logistics Policy," *GoN, MoICS*, last modified September 23, 2022, https://moics.gov.np/uploads/shares/Trade%20Logistics%20Policy%2C%202079%20(Unoffical%20English%20Translation).pdf

[50] "Nepal National Logistics Cluster Common Service - 7 Month Situation Report for COVID-19 Response: 19 November 2020," *Logistics Cluster, WFP*, last modified December 4, 2020, https://reliefweb.int/report/nepal/nepal-national-logistics-cluster-common-service-7-month-situation-report-covid-19

Global and Regional Policy framework(s):

i) The International Air Transport Association (IATA): The IATA founded in 1945 advocates for safe, dependable, secure, and affordable air travel for the benefit of consumers.[51] It serves as the global trade organization representing 300 airlines or 82% of total air traffic worldwide.[52] IATA creates and enforces rules and regulations that control many aspects of air travel, playing a vital role in the aviation industry. Beside ticketing and reservation processes IATA has rules and regulations that cover a lot of different areas, like safety standards, security, airport infrastructure, ground operations, cargo operations, special cargo, dangerous goods and more.[53] They aim to make sure air travel is safe and secure by setting safety standards and maintaining best practices.

In addition to baggage handling, cargo and freight are regulated by IATA too. It sets out the rules and procedures for how cargo should be handled, packaged, labelled, and documented[54]. IATA is also active in environmental sustainability in the aviation industry, setting up programs like Fly Net Zero and CORSIA to help airlines cut down on carbon emissions and reduce their impact on the environment.[55]

ii) International Federation of Freight Forwarders Association (FIATA): FIATA is a global organization representing the interests of freight forwarders and logistics service providers. Established in 1926, FIATA serves as an umbrella organization for freight forwarders from around the world.[56] The main goal of FIATA is to advance global logistics and freight forwarding services while standing up for the rights and the interests of its members. FIATA is serves as source of information on international policies and regulations that govern the logistic and freight forwarding sector.[57] It is crucial in creating and advancing standardized practices, procedures, and documentation. International trade and shipping frequently make use of the standardized

[51] The Founding of IATA," International Air Transport Association, last accessed September 30, 2023, https://www.iata.org/en/about/history/
[52] "IATA's role in the Travel Industry," *IATA*, last accessed September 21, 2023, https://www.iata.org/en/youandiata/travelers/iata-role/
[53] "Manuals, Standards and Regulations," *IATA*, last accessed September 19, 2023, https://www.iata.org/en/publications/manuals-standards-regulations/
[54] "Programs & Policy," *IATA*, last accessed September 18, 2023, https://www.iata.org/en/programs/
[55] Ibid.
[56] "Who We Are," *International Federation of Freight Forwarders Associations*, last accessed September 18, 2023, https://fiata.org/about/
[57] Ibid.

paperwork that FIATA produces.[58] These documents have significantly enhanced the ease of international transactions as they have excellent reputation and trust.

Professionals in logistics and freight forwarding may network, share knowledge, and cooperate together on FIATA's platforms. This encourages collaboration between participants in the sector and the sharing of information.[59] FIATA aims at uniting and advocating for the global freight forwarding industry and enhance their quality through standardization. Currently, Nepal is represented in FIATA by five individual members.[60]

iii) International Chamber of Shipping: The International Chamber of Shipping (ICS) serves as an umbrella organization for national ship-owners' associations around the world and covers wide range of matters, including regulatory, operational and legal issues and employment related affairs.[61] It was established on 1921 and has members from around 40 countries.[62] It represents all forms of shipping community including dry bulk carriers, oil tankers, chemical tankers, gas carriers, container ships, general cargo ships, offshore support vessels and passenger ships.[63] ICS represents and advocates the interest of the shipping industry in the international platform such as International Maritime Organization and International Labour Organization, government regulators and other concerned stakeholder.

In addition to cooperating and collaborating with international organizations and partners, the ICS supports the shipping industry through publications, guidance and software tools.[64] It produces vital maritime best practice publications that complement international policies and regulations and offers the Watchkeeper software[65] for monitoring seafarers' work hours. ICS also supports maritime education and talent development through initiatives like the World Maritime University and industry advocacy.

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[58] "FIATA Documents," *FIATA*, last accessed September 16, 2023, https://fiata.pages.dev/resources/
[59] "FIATA Digital Strategy," *FIATA*, last accessed September 16, 2023, https://fiata.org/digital-strategy/
[60] https://fiata.org/directory/np/
[61] "Annual Review 2020: Heroes at Sea," *International Chamber of Shipping*, last modified 2020, https://www.ics-shipping.org/wp-content/uploads/2020/11/annual-review-2020-final-compressed.pdf
[62] "About ICS," *International Chamber of Shipping*, last accessed September 12, 2023, https://www.ics-shipping.org/about-ics/
[63] Ibid.
[64] "Supporting Shipping," *International Chamber of Shipping*, last accessed September 13, 2023, https://www.ics-shipping.org/supporting-shipping/
[65] "ISF Watchkeeper," *International Chamber of Shipping*, last accessed September 13, 2023, https://www.ics-shipping.org/supporting-shipping/isf-watchkeeper/

iv) International Road Transport Union: The IRU is an international organization that represents the road transport industry. It covers both passenger and freight transportation by road. The IRU was established in 1948 is a key player in promoting road transport and development around the world. The IRU administers the TIR (Transports Internationaux Routiers) Convention, an international customs transit system that simplifies and standardizes customs procedures for the international movement of goods by road.[66] TIR is only global transit system that allows goods and commodities to be shipped securely from its origin country to another in sealed compartments, with customs control through a broadly recognized system.[67] It is most convenient and dependable way to move goods across international borders creating a beneficial situation for both transport operators and custom authorities by saving cost and time.

IRU also provides advisory services to the governments, public entities, and international as well as regional organizations to stimulate trade and transit ease prioritizing security and transparency.[68] They are also committed to promoting road safety and improving the safety performance of the mobility and whole logistics industry.

v) International Union of Railways: The International Union of Railways, often known as UIC or Union Internationale des Chemins de fer, is a global organization that advocates for international cooperation and standardization in the rail transportation business and represents the interests of the railway industry. UIC established in 1922 has 219 members worldwide as of 2023, however, Nepal is not a member of UIC at this time.[69] Its membership includes Railway Businesses, operators, infrastructure managers and various international stakeholders.[70] UIC is an association that promotes the technical collaboration amongst railways around the serves as the governing body.

It is actively involved in understanding the sector's stance and requirement, developing innovative programs to offer the solutions to those needs as well as conducting research, publishing guidelines, documents, specification and safety measures that are crucial in execution of these

[66] "History," *International Road and Transport Union*, last accessed September 15, 2023, https://www.iru.org/who-we-are/about-iru/history
[67] "TIR: Global. Seamless. Certain," *International Road and Transport Union*, last accessed September 23, 2023, https://www.iru.org/what-we-do/facilitating-trade-and-transit/tir
[68] "Advisory Services," *IRU*, last accessed September 23, 2023, https://www.iru.org/what-we-do/certification-standards/advisory-services
[69] "VADEMECUM (List of UIC Members)," *International Union of Railways*, last accessed September 15, 2023, https://vademecum.uic.org/en/
[70] "About UIC," *UIC*, last accessed September 15, 2023, https://uic.org/about/about-uic/

solutions.[71] UIC is also dedicated in advancing the international freight forwarding and logistics. It works in the areas such as Wagon utilization, development of intercontinental rail freight corridor, seamless train operation, load safety, safely transport of dangerous goods, data exchange, and more.[72]

vi) Federation of Asia Pacific Air Cargo Associations (FAPAA): Since its founding in 1985, the FAPAA has steadily expanded to include 19 nations and/or regions in the Asia Pacific region, including Nepal.[73] It is regional Air Cargo body bringing together the representative Air Cargo Associations of the region. The main aim of FAPAA is to expand and develop the air cargo services throughout the Asia-Pacific region.[74] FAPAA plays a crucial role in streamlining movements because its members must, by virtue of their field of activity, have positive working ties with airlines. FAPAA often communicates with other regional and international goods forwarding organizations since it is extremely aware of the necessity to be informed about events across the world. To advance the shared interests of membership, they routinely communicate primarily with the IATA and FIATA.[75] FAPAA provide its members with ability to access every part of the world, handling various type of goods and commodities, proposing a range of services such as import/export forwarding, 3rd and 4th party logistics, customs brokerage, expert guidance.[76]

vii) International Maritime Organization (IMO): The International Maritime Organization (IMO) is a specialized United Nations (UN) body in charge of monitoring and regulating international shipping. Its main goal is to uphold the environmental sustainability, safety, and security of the world's maritime industry. To improve the safety of ships, their crew, and passengers, the IMO creates and enforces a wide range of rules and standards. These regulations cover the building, equipment, navigation, and safety protocols for ships. The International Convention for the Safety of Life at Sea (SOLAS), which establishes safety requirements for all facets of ship construction and operations, is the most well-known collection of regulations.[77] The IMO is firmly committed

[71] "UIC Activity Report," *UIC*, last modified 2022, https://uic.org/IMG/pdf/uic_activity_report_2022.pdf
[72] "Freight," *UIC*, last accessed September 15, 2023, https://uic.org/freight/
[73] "Members," *Federation of Asia Pacific Aircargo Associations*, last accessed September 2, 2023, https://www.fapaa.org/members/
[74], "About Us," FAPAA, last accessed September 2, 2023, https://www.fapaa.org/about/
[75] Ibid.
[76] "Federation of Asia Pacific Air-cargo Associations (FAPAA)," *FAPAA*, last accessed September 2, 2023, https://www.fapaa.org/
[77] "International Convention for the Safety of Life at Sea, (SOLAS)," *International Maritime Organization*, last modified 1974, https://www.imo.org/en/About/Conventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-(SOLAS),-1974.aspx

to reducing the effects of shipping on the environment. Regulations have been put in place to cut down on Sulphur oxide and nitrogen oxide emissions from ships. One important treaty addressing many aspects of marine pollution is the International Convention for the Prevention of Pollution from Ships (MARPOL).[78]

- *Brief Comparison with Global LSPs.*

There are apparent bottlenecks within Nepal's SCM, with lagging infrastructure developments and hassles seen within the sector. Particularly, when looking at the LSPs that work in Nepal, there is some difference seen in the processes and performance of the local LSPs and global LSPs working in Nepal, and that is a resulting factor of the broad yet ambiguous legal and policy frameworks of the state. Beyond the detailed gaps presented in the following units, there are certain considerations that need to be made when comparing Nepal's practices in the logistics sector to the global practices.

When looking at the **overall working modalities**, there is a set culture of the global LSPs and they operate under a set of defined modalities. They work as per the requirement of the agencies that they are dealing with – keeping in mind the requirements of the several outlets that they cater to and stuffing their containers accordingly. In the case of local LSPs, there has been significant developments within their functional capabilities, as the years have augmented linkages within the LSPs' networks. However, even as their competitiveness has increased, there is a distinct scattering within their approaches, as bureaucratic bottlenecks are witnessed when they attempt to extend their mechanisms. There is also the matter of specialization that local LSPs essentially can focus on in relation to foreign LSPs. A distinction in terms of services offered by importers and LSPs need to be made and assessed similarly, in terms of the role and designation provided by the overarching policy outlooks.

[78] "Conventions," *IMO*, last accessed September 5, 2023, https://www.imo.org/en/About/Conventions/Pages/Default.aspx

METHODOLOGY OF THE STUDY

- *Approach and Methodology:*

The study will primarily seek to explore the role and capacity of the Logistical Service Providers in Nepal. The research is based on the qualitative method and is descriptive in nature, where the researchers have drawn from existing data and information.[79] The study was divided into two phases of data collection. The preliminary data regarding the administrative and legal status of the LSPs was collected through official government portals and channels, as well as the interconnected institutions involved in Nepal's supply chain. The literature for the first phase will be accumulated from formal sources - national, governmental and international reports, data and web publications to point out the already highlighted gaps, and try to synthesize the information. Identified stakeholders were also consulted with to fill in the gaps during the initial stage.

The period of literature review further sought to assess the policy frameworks and legalities that have been targeted to build and expand the efficiency of the industry as a whole, in order to clearly elucidate the role of the stakeholders, and how they are impacted by the changes within the industry. An understanding was thereafter drawn to consider whether the LSP's relationship with the stakeholders is well-coordinated, and conducted in an orderly manner, and how their overall efficiency is impacted through the process. The second phase conducted a wider stakeholder consultation to address the recognized constraints in the working modalities of the Nepali LSPs, and identify the ways in which the gaps could be addressed. Both primary and secondary data has been utilized. For the former, semi-structured interviews was conducted during stakeholder consultations by a team of two researchers.

- *Research Objectives:*

The study is largely descriptive, and the aims have been designed as such.

The specific objectives of the research are listed below:

a. To broadly describe and assess the role of LSPs in Nepal, outlining the major constraints that they face when carrying out their activities.

[79] C.R. Kothari, *Research Methodology: Methods and Technique* (New Delhi: New Age International (P) Ltd., Publishers, 1990): 3.

b. Analyze the interests of the major stakeholders within Nepal's supply chain, gaining a perception of how they discern the functional capabilities of LSPs in the state.
c. Ascertain the policy and regulatory structures that guide the activities of the LSPs and understand the institutional response required to address the identified policy gaps.

- *Delimitations:*

It is significant to note that the research focuses specifically on the challenges that LSPs face within their working modalities in Nepal and the policy gaps that needs to be addressed, and so the variables regarding the same are numerous. This research is limited to present-day challenges that LSPs face when carrying out their designated responsibilities and the policy gaps that require immediate addressal. Furthermore, this research was conducted within a timeframe as prescribed by NITDB and as such the data collection phase as well as the space for conducting on-field surveys were done within a narrow framework, owing also to the limited resource. This study, specifically, faced the following limitations:

a. *The conceptual framework*: Contextually, the research has incorporated general information about the LSP's in Nepal, and has tried to gain an insight into the interests that impact the field, as well as recognize the patterns of apparent divergences. As such, the study has only considered the interests and activities of the main institutions involved within the supply chain network. There are treaties and agreements that allow for transit-trade between the countries, and while they have been mentioned as well as defined at particular points in the study, as needed, the entirety of the agreements have not been considered in detail.
b. *Time limit*: While the study aimed to at least gain an insight into the major stakeholder interests at various designated stages of research, the study had to limit its purview within select institutions and targeted individuals who had been engaged in the field of logistics. The time frame, as well as the limited resources, also did not permit an in-person visit to the designated dry-ports.

ACTORS IN THE SUPPLY CHAIN

A supply chain links various sectors through which a certain set of products or services flows. As Ganeshan and Harrison note "A supply chain is a network of facilities and distribution options that performs the functions of procurement of materials, transformation of these materials into intermediate and finished products, and the distribution of these finished products to customers."[80] SCM then incorporates a diverse set of bodies that oversee a range of processes from the purchasing materials and converting them into goods to delivering the products and services. Within this complex network, logistics serves as a component that incorporates various actors involved in the transportation, storage and delivery of the finished good to the concerned client.

In Nepal, logistic supply chain management is essential for facilitating both internal and external trade in goods and services. Being a landlocked nation sandwiched between China and India, Nepal presents particular opportunities and problems in managing its supply chains, with various challenges in terms of terrain, infrastructure, regulatory frameworks, transportation and partnerships, to name a few.

- *Freight Forwarders*

Acting as intermediaries, freight forwarders are companies that essentially receive goods from other companies and ship the orders. They are crucial as they make sure that the goods are sent safely and without damage. Their major functions include that of booking reservations in air, rail, and sea routes in order to facilitate the shipping, reducing cost and streamlining the processes, while also managing storage and simplifying the documentation process for their clients.[81] Freight forwarders also help negotiate prices with clients and claims insure when situation arises.

On behalf of shipping firms, these establishments manage the transfer of goods from exporter to importer, issue Bills of Lading and complete any other paperwork required for cargo transit. Nepal Freight Forwarders association (NEFFA) the national association of transport and logistics services providers in Nepal aims to promote trade by facilitating coordination among

[80] Ram Ganeshan and Terry P. Harrison, "An Introduction to Supply Chain Management," last modified May 22, 1995, https://gtl.csa.iisc.ac.in/scm/supply_chain_intro.html

[81] "Freight Forwarding*," Trade Facilitation Implementation Guide, United Nations*, last accessed September 30, 2023, https://tfig.unece.org/contents/freight-forwarding.htm

national and international import and export related entities, government bodies, donors, and international agencies, both within and beyond borders.[82]

- *Custom Brokers*

Custom brokers are professionals who help the companies in the process of customs clearances during the process of shipment of goods. They are defined as "third parties" in the Revised Kyoto Convention (RKC, 2008), and are "anyone who deals directly with Customs, for and on behalf of another person, relating to the importation, exportation, movement, or storage of goods." [83] They help the traders to simplify the complex clearance formalities and ensure that all the standards of shipment are met by the company. Their major roles include clearance of customs on goods, documentation of the process according to rules and regulations, calculation of tariffs, signing of documents on behalf of clients, and so on. Countries often mandate the involvement of licensed Custom brokers for companies to ensure compliance with regulations, while this aims to enhance adherence, it also raises trading expenses and restricts competition in this industry. [8485] Currently there are approximately 830 licensed custom agents in Nepal.[86]

- *Sanitary and Phytosanitary Measures*

Governments use sanitary and phytosanitary (SPS) measures as laws, regulations, guidelines, and practices to safeguard people, animals, and plants against diseases, pests, toxins, and other contaminants. These are basically quarantine and biosecurity measures governed by WTO's agreement on Application of Sanitary and Phytosanitary Measures.[87] The agreement lays out the fundamental guidelines for food safety as well as requirements for the health of animals

[82] "Brief About NEFFA," *Nepal Freight Forwarders Association*, last accessed September 17, 2023, https://neffa.org.np/brief-about-neffa/
[83] "Text of the Revised Kyoto Convention," *World Customs Organization*, April 17, 2008, https://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/conventions/pf_revised_kyoto_conv/kyoto_new.aspx
[84] "Custom Brokers," *Trade Facilitation Implementation Guide, United Nations*, last accessed September 29, 2023, https://tfig.unece.org/contents/customs-brokers.htm
[85] Pushpa Raj Rajkarnikar, "Adequacy and Effectiveness of Logistic Services in Nepal: Implication for Export Performance."
[86] "Customs Department Adds 660 Customs Agents," *Nepal News*, last modified June 30, 2022, https://nepalnews.com/s/nation/added-660-customs-agents
[87] "Agreement on the Application of Sanitary and Phytosanitary Measures," *World Trade Organization*, last accessed September 13, 2023, https://www.wto.org/english/docs_e/legal_e/15sps_01_e.htm

and plants that member states must adhere to. It aims to determine ways to meet the requirement for applying standards while avoiding veiled protectionism, working in tandem with the Technical Barriers to Trade Agreement.[88]

While Nepal is party to WTO with its SPS agreement there are institutional as well as infrastructural inadequacies in SPS measures in the country. Nepal has inadequate accredited testing laboratories and certification bodies which have a limited scope in terms of products and parameters they cover.[89]

- *Terminal Services*

A terminal is a designated place where containers are prepped for loading into a vessel, train, truck, or airplane, or where containers are piled immediately after discharge from the vessel, train, truck, or airplane. They act as transportation hubs for vehicles to come and drop products, they are important as it provides a safe space for storage and containment and they connect maritime routes. Nepal boasts multiple dry ports providing terminal services such as loading, unloading, storage, transshipping, shunting and handling of goods. Currently, there are five dry ports operating in Nepal: Birgunj ICD, Bhairahawa ICD, Biratnagar ICP and Kakarvitta ICD and Chobhar ICD. The Birgunj Dry Port stands out as the biggest in terms of its annual cargo volume and revenue regenerated from customs and duties.[90] And is the sole rail-linked terminal connecting Nepal and India. These ICDs provide services like parking, warehousing and storage, weighing facility, automated billing, crane and forklift facility, banking facility and more.

It takes minimum 5 to 10 days due to availability of train crossing border for export cargo with regards to the Birgunj ICD. A recent shipment that left the ICD on the October 4, 2023, had not reached Kolkata till October 12 (9 days). It takes minimum of 6 to 13 days to onboard due to two days cut off time at port before vessel arrives and two days minimum to load vessel and sail out. It takes minimum of three days to depart by road if empty container planning is done well or truck is easily available. With regards to the Integrated Check Post (Birgunj ICP), it takes minimum

[88] "Sanitary and Phytosanitary Measures," *WTO*, last accessed September 13, 2023, https://www.wto.org/english/tratop_e/sps_e/sps_e.htm

[89] Paras Kharel, "SPS measures in Nepal's agricultural Trade," *South Asia Watch on Trade, Economics and Environment (SAWTEE)*, last modified August 5, 2019, https://www.sawtee.org/OtherPDFs/SPS_issues_in_agricultural_trade_Pkharel.pdf

[90] "Nepal Port Assessment," *Logistics Cluster*, last modified 2022, https://dlca.logcluster.org/21-nepal-port-assessment

of 4 days to reach up to port and other formalities and process as per details mentioned above. To clear import cargo post arrival at the border, if the documents are ready, it takes 2 days but usually the CIF term cargo require bank release from commercial banks and that is received only after bank loan and interest are paid and cargo release issued. In general, it takes 4 days to clear at border and 1 to 2 days to reach Kathmandu depending on the availability of truck with right transport costs. Similarly, for Biratnagar and Kakkarvitta ICD, it takes 2 days if trucks are easily available and documents are intact. It takes four days to reach port, and rest as mentioned above.

- *Railways and Sea Ports*

Railway and Sea Ports serve as vital conduits that enable a country to establish connection between its domestic market and global market, facilitating the exchange of goods and commodities among nations. However, Nepal faces deficiency in both of these essential facilities as it is a landlocked country and the only rail-linked dry port is located at the southern border of the country. As a landlocked country Nepal has to rely on third country's sea ports for international trade. At present Nepal has been using Indian Kolkata, Haldia and Vishakhapatnam for its third country trade.
Nepal has access to utilize Chittagong and Mongla Port by Bangladesh and more recently, Bangladesh has extended offer to Nepal allowing it to use the newly constructed Payra Port for trade with third countries.[91] Additionally, Nepal also been given access to four sea ports in China- in Tianjian, Shenzhen, Lianyungang and Zhanjiang.

- *Shipping Companies*

Shipping continues to stand as the overwhelmingly predominant mode of international goods transportation. Shipping companies provide the services for transporting cargo via sea routes, utilizing container ships that travel between various ports. According to WTO it constitutes over 80% of the overall volume of global trade.[92] Shipping companies primarily transport fill containers (CFL cargo) by sea, however due to the increasing demand of small and medium sized import and export business, there is ongoing need for cost-effective solutions to access container

[91] Anil Giri, "Prime Minister Hasina Offers Nepal the Use of Bangladesh's Payra Port," *The Kathmandu Post*, last modified July 29, 2023, https://kathmandupost.com/national/2023/07/29/prime-minister-hasina-offers-nepal-the-use-of-bangladesh-s-payra-port#
[92] "Maritime Transport," *WTO*, last accessed September 18, 2023, https://www.wto.org/english/tratop_e/serv_e/transport_e/transport_maritime_e.htm

space for smaller volumes of merchandise, known as LCL cargo.[93] Consolidation for LCL cargo is usually done in Kathmandu and the average time as experienced by freight forwarders to move cargo is between 3 to 7 days. It takes minimum of 3 to 4 days at the border, depending on movement by road. Movement by rail is very uncertain due to balance of train load and minimum amount of container required by rail service providers – average time taken from 7 days to even 25 days.

Shipping companies directly deliver the consignment to dry ports in Nepal. Before the implementation of the direct transshipment procedure, cargo from foreign countries to Nepal used to go through the Indian dry port, adding extra time, costs, and paperwork burdens for Nepali importers, who had to handle customs, insurance, and documentation well in advance and even hire agents in Kolkata. However, the implementation of direct transshipment has significantly reduced these hassles for importing goods into Nepal.

- *Warehousing Facilities*

Warehousing plays a crucial role in trade logistics, being essential in customs, ICDs, and ports, and it can take the form of covered sheds, parking areas, or storage spaces, among others.[94] The demand for warehousing facilities is contingent upon the duration of the clearance process, with lengthier procedures necessitating more warehouse capacity.[95] Nepal has a total of 30 customs offices, comprising of 9 on the northern border and 20 on the southern border for land routes, and one at Tribhuvan International Airport for air route.[96] The biggest ICD, Birgunj ICD runs six handling lines and a warehousing of 2,20,000 Sq. ft.[97]

[93] "What role do shipping companies play in maritime transport?" *Klog.co*, last modified June17, 2022, https://klog.co/en/blog/what-role-do-shipping-companies-play-in-maritime-transport
[94] Pushpa Raj Rajkarnikar, "Adequacy and Effectiveness of Logistic Services in Nepal: Implication for Export Performance."
[95] Ibid.
[96] "Frequently Asked Question," *Trade and Export Promotion Center, Ministry of Industry Commerce and Supplies, GoN*, last accessed September 17, 2023, https://nepaltradeportal.gov.np/faq
[97] "Infrastructure Nepal," *Pristine Logistics & Infraprojects Ltd*, last accessed September 12, 2023, https://pristinelogistics.com/nepal/

MAJOR FINDINGS: GAPS & CHALLENGES:

Before delving into the facets of the challenges that LSPs face, it becomes important to note that the nation in 2018, prior to the pandemic, had climbed the World Bank's LPI report,

> "The logistics component has escalated in rankings due to progress witnessed in customs procedures, trade logistics quality, timeliness delivery, and tracking and tracing system. However, the lack of organized transportation routes, increasing traffic at ports, lack of full-fledged operation of check posts and excessive documentation process are still the main drivers behind the delay as these issues hinder the possibility of change and socio-economic growth of manufacturing industries."[98]

There are apparent hindrances that have been recorded in conversation with the logistic service providers in Nepal. But more so, there are several bottlenecks within the SCM itself, which has been a discussed issue.[99] SCM Additionally, what was also seen during the pandemic that provided course for further understanding the gaps present within the sector was that there was a need for a "multi-pronged strategy of incremental changes," that is both time and cost-efficient.[100]

Through the course of the study, particularly in the process of gauging and assessing stakeholder interest, the following points, moreover, stood out in consideration of the hassles that LSPs face, broadly and more evidently;

- *LSPs within the SCM: Lack of Coordination and "Learning by Doing."*

Transport logistics is a vast field, incorporating various actors with differing working mechanisms and guidelines. SCM, further, encompasses not just the movement of goods but also an efficient and coherent flow of information along the diverse channels. For example: the process is extensive, right from the origin, i.e., the pick-up point that includes transport providers, quality certifying agencies, third party inspection, security, customs, custom brokers, civil aviation, port

[98] Nasala Maharjan, "Supply chain management hassles in Nepal," *Nepal Economic Forum*, last modified August 14, 2019, https://nepaleconomicforum.org/supply-chain-management-hassles-in-nepal/
[99] Ibid.
[100] Sujeev Shakya, "Re-engineering the Supply Chain in Nepal," *Center for International Private Enterprise*, last modified August 2020, https://www.cipe.org/wp-content/uploads/2020/08/Sujeev-Shakya_2.pdf

authorities, terminal operators – moving along the transshipment points – then towards the destination with freight forwarders, warehouse operators, and so on.

This coordination amongst these entities is challenging, and unless the tracking system and the cargo tracing systems are automated it will likely remain a difficult one to overcome. Coordination is required at the borders and airport, with an integrated border/port/terminal management system, because the overall risk is very high of not just illegal trade and fraud, but also of handling the goods properly – with issues of misplacement, difficulty in locating the goods, and identifying the proper shipping channels. The processes is not limited only within the border, but beyond the border as well and the responsibility of coordination lies on the LSPs. Within this consideration, to enhance their activities, the varying actors need to specify their roles. "Learning by doing" is what the majority of the LSPs are accustomed to when entering and working in this field.

Sector-wise segregation is, hence, missing and important, and understanding needs to be developed within actors of their commitments and corresponding responsibilities. For instance, while Nepal is a signatory to the IMO, sufficient training has not been given to the LSPs, beyond small trainings regarding import and export procedures and multimodal operations. Being an LLS, Nepal has unique transport logistics because you have to custom clear three points.

Even in the case of air cargo handling (related to IATA), the norms are present on paper but there is no LSP that is particularly affiliated with IATA in Nepal. In this context, however, LSPs have been given the training of handling dangerous goods under IATA's provision, but the general cargo handling as well as the IATA model have to be incorporated more precisely. There exists a liability and responsibility for the LSPs to become IATA certified. Our research has also identified that the government system's bill of lading of the sea cargo is a negotiable document, but the authentication mechanisms are not there in the Nepal Rastra Bank (NRB) or the banking systems. Several fraud-related cases have occurred because of this matter.

Also, in the public sector, both at the municipal and national level, there is a need for proper coordination, planning and control of transport and logistic-related services for managing supply within the country as they lack the personal and professional competencies. Research indicated the shortage of features of Transport and Logistics specialists, and grooming of those already in the activities by imparting newer techniques in supply chain management with the use of technology and the right equipment.

- *Policies: National Regulations and Enactment.*

The policy frameworks that have been developed in Nepal which oversee the working modalities of the LSPs need an effectual implementation strategy. The MT act, for example, has been in effect for more than a decade, yet its revision is lacking. This has come into focus even when regional agreements have been considered. Especially recently, with the Bangladesh-Bhutan-India-Nepal (BBIN) initiative, there were concerns that pointed towards the idea that the multi-modal policies and protocols within Nepal were not adequate enough – requiring further assessment of the existing structures.[101] This was highlighted, for example, when the BBIN motor vehicles agreement, signed in 2015, was discussed in reference to the lack of technical guidelines within Nepal to oversee inland navigation.[102] The study also encountered uncertainties regarding the purchasing policy.

While in 2022, a policy passed on titled the *Trade Logistics Policy* did aim to address a number of these issues, gaps remain that need to be evaluated when translating the policy into legal acts and regulations [briefly highlighted in *Introduction*]. The goal of this document was to manage as well as improve the trade logistics system within the country, bringing in investment. There was a consensus that a policy that could develop Nepal's logistics performance was needed, but there were specifics that were missing in the general language of the document. This was regarding: "a. Inbound transportation, b. Outbound transportation, c. Fleet management, d. Warehousing, e. Materials handling, f. Order fulfillment, g. Inventory management, h. Demand planning, i. Information and control Mechanism, and j. Intermediate Facilities."[103] Also, "names of private agencies involved and conceptual frameworks for regional integration are missing."[104] Furthermore, it drew criticisms from experts in the sector, underlining the lack of country-specific policies, overlooking important topics of warehouses within intermodal and multimodal transport, altering routes and destinations, as well as tax issues.[105]

[101] "Nepal National Advocacy Dialogue," *CUTS-CITEE*, last modified November 18, 2021, https://cuts-citee.org/pdf/report-national-advocacy-meeting-nepal.pdf
[102] Krishana Prasain, "BBIN Motor Vehicles Pact Has a Bumpy Ride Ahead for Lack of Policies, Regulations."
[103] Rajan Sharma, Nepal's Logistics Policy and the Way Forward," *HRM*, last modified February 24, 2023, https://thehrmnepal.com/opinion/nepals-logistics-policy-and-the-way-forward/
[104] Ibid.
[105] "Trade Logistics Policy 2022 Draws Criticism," *The Annapurna Express*, last modified December 22,3, 2022, https://theannapurnaexpress.com/news/trade-logistics-policy-2022-draws-criticism-35982/

Beyond the policies, are also institutions that attempt to guide, implement and amend them. The study finds that while hassles have been reduced for the overall trade and transport regime, there is an inherent trust deficit between the local LSPs and the bureaucratic networks.

- *Infrastructure: Transport and Storage.*

Discussed in the first unit as well, Nepal's infrastructural capacity needs proper evaluation and the upscaling of certain facilities needs to happen accordingly. The trade competitiveness of Nepal is dependent on well-organized transit services, and it required closer examination, especially as inefficiency impacts transport and logistics cost, further augmenting the prices of inputs and consumer goods.[106] There is a lack of storage facilities both in terms of the government warehouses and airports outside the capital, all of which is compounded by the rough terrain.[107] While there are low-volume storages, warehouse capacity for humanitarian purposes is wanting in terms of their availability.[108] Private container freight stations (CFS) are, likewise, lacking.

Table 6: International Scorecard, LPI: South Asia Comparison.[109]

Country	Year	LPI Rank	LPI Score	Customs Score	Infrastructure Score	International shipments Score	Logistics competence Score	Tracking & tracing Score	Timeliness Score
Nepal	2018	114	2.51	2.29	2.19	2.36	2.46	2.65	3.1
Region: South Asia	2018	109	2.51	2.32	2.33	2.48	2.46	2.56	2.9
Country	Year	LPI Rank	LPI Score	Customs Score	Infrastructure Score	International shipments Score	Logistics competence Score	Tracking & tracing Score	Timeliness Score

Source: World Bank, LPI, 2018.

The LPI score ranks nations on the basis of six factors: i) ease of processes during clearance of goods, ii) infrastructure (roads, railways, etc.) quality, iii) efficiently organizing "competitively

[106] "Nepal Logistics Infrastructure," *Logistics Cluster*, last modified 2022, https://dlca.logcluster.org/2-nepal-logistics-infrastructure
[107] Ibid.
[108] "Nepal Storage Assessment," *Logistics Cluster*, last modified 2022, https://dlca.logcluster.org/26-nepal-storage-assessment#id-2.6NepalStorageAssessment-ColdChain
[109] "International Scorecard Page," *World Bank,* last modified 2018, https://lpi.worldbank.org/international/scorecard/radar/C/NPL/2018/R+SAS+2018

priced shipments," iv) quality of the services, v) effectively tracking the consignments, and vi) timely delivery of the cargo/goods.[110] As per the *Logistics Cluster*, though several developments have happened within the logistics sector, Nepal ranks fourth lowest in the South Asian region.[111] There have been significant developments in terms of reaching and improving connectivity along rural pathways, though a number of challenges remain in terms of overall infrastructural progress.

An important point to note, and something that came up frequently when discussing with LSPs, are the roads that face damage due to continuous movement of heavy trucks, carrying bulk cargo. Highways are essential for an LLS, and in Nepal they necessitate a closer look. As such transport finds difficulty in steering through the lanes, with movement facing congestion, and as per local LSPs, there is a need of 4-lane highways for the purpose of efficient navigation. But for that, there needs to be a proper assessment of the environmental factors, the development needs, as well as the situation of the roads which face damage when bulk cargo moves through it.

Beyond these hassles, along the border points when looking at storage capabilities, local LSPs have mentioned that there are a lack of adequate labs for the testing of goods. Furthermore, there needs to be methodical data keeping and sharing regarding the logistics-related equipment in function in Nepal, which is lacking. The customs does not enter the cargo capacity i.e., measured in TEU, though data exists in the form of value and quantity of the goods. Systemic changes are necessary for the improvement of services, and this cannot happen if there is a basic information gap between the concerned parties.

[110] Ibid.
[111] "Nepal Logistics Infrastructure," *Logistics Cluster*.

CONCLUSION AND RECOMMENDATIONS: WAYS FORWARD

There is an information, institutional and capacity gap within the logistics sector in Nepal. The major issues that have been identified in Nepal is the inability to detect, analyze and solve arising problem (The Predictability). Poor knowledge of foreign languages and business behavior (The Adaptability), poor coordination among players in logistic from origin to destination, resulting to improper tracking under the automated system (The Traceability). Hence, the liability and consequences arises (Accountability). If the freight forwarders are well trained and professional, they can become a focal point to control the entire logistics mishaps that have been taking place with increased accountability, traceability as well as predictability, and proper risk management in the trading sector.

On the basis of the present-day operating mechanisms of the LSPs in Nepal, and also the gaps and challenges within those modalities, the report pushes forth the following recommendations that can be considered henceforth:

- Through the study, it was understood that LSPs in Nepal have developed informal networks amongst themselves and carry interactions with several institutions, yet they lack formal procedural support from organizations that oversee their activities – this is apparent in the lack of coordination between these varying entities. The conducted literature resource analysis and discussion with associations that are active in the field has shown, that to eliminate the obstacles for the Transport and Logistics to integrate into the labor market, it is necessary to develop an integrated intercultural competence and personal qualities by bringing all actors of the field together to enhance their capacity to coordinate and share responsibility and liabilities.
- Data building mechanisms as well as data sharing channels need to be identified and strengthened amongst the various actors within the SCM, as general and updated information are also not completely accessible for broader understanding. This is also required from a general research and development perspective. Focus needs to be on the ground, by prioritizing research within relevant institutions and disseminating information through standard and stable channels.

- As aforementioned, there is also a need to assess the skills and activities of the local LSPs – be they public or private. LSPs, though have mechanisms to ground their networks and information, they lack formal trainings. Findings suggest that most of the actors of logistic providers: government or private, lack practical skills, which largely depend not only on the training programs but communication skills and techniques needed to make things happen in collaboration with foreign service providers during handling of end to end logistic.
- Automation is the need of the moment. Block chain systems can be brought in to manage the intricate and interconnected systems within the logistics network, easing the process of trade, by helping LSPs keep a track of their operations, as well as providing a well-documented records of the several transactions and other financial activities.
- The logistics policies need to be reviewed and revised, and the efficacy of the enacting mechanisms require a deepened understanding between the LSPs and institutional entities: government and private. Coordination is key to guaranteeing a smooth logistics operation and for that communication channels need to be open, fair and transparent.
- Quality plates a big role and logistic service providers need to keep up to the quality standards that a mandatory and specific to commodities:
    - Qualification of shipping containers.
    - Qualification of temperature-controlled road vehicles.
    - Temperature and humidity monitoring systems for transport operations.
    - Transport route profiling qualification etc., are some knowledge lacking amongst the logistic service providers.
- The trading environment in the region is changing, which impacts the overall logistical functioning of the related entities in the evolving system. Careful contemplation is required when assessing the managing capacities of the LSPs in regard to these transformations. It is equally important to know the impact on the market due to the lack of skillful management of domestic and international logistics in Nepal, where the sector is guided by so many laws and regulations. The capacity enhancement should comprise a holistic approach towards providing competency, the relation of the competence level with government institutional as well as general orientation to professional education; for the formation of a qualitatively new way of thinking.

- Specific firms have specific requirements like warehouse management, inventory management, environmental management, custom clearance, inbound logistics, outbound logistics and other logistic related activities. Therefore, logistic training to cater to those industries specific needs is the requirement in Nepal.
- Formal training should be geared towards inculcating these skills within LSPs. The training standards should also underscore and promote the significance of knowledge-sharing platforms, and help push active participation from the various persons engaged in the fields of trade, logistics, bureaucracy, and such. For achieving the quality of the training process, it further becomes imperative to understand the role of transformation from information to knowledge. It is very important to show the real benefits of knowledge usage in a person's business or personal life. Participation and combinations of formal and non-formal education in the training process are welcome. For this purpose, a training toolkit is necessary and the various actors should know what are the diverse set of practices beyond the borders, and in general, within their sector.

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