AKHIL BHARTIYA SHIKSHA SAMAGAM 2023

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Organised By

शिक्षा मंत्रालय
MINISTRY OF
EDUCATION
सत्यमेव जयते

कौशल विकास और
उद्यमशीलता मंत्रालय
MINISTRY OF
SKILL DEVELOPMENT
AND ENTREPRENEURSHIP
सत्यमेव जयते

Thematic Session 13

Capacity Building in Logistics Sector through PM Gati Shakti National Master Plan

1. Introduction

Indian PM Shri Narendra Modi inaugurated the 2nd Akhil Bhartiya Shiksha Samagam (ABSS) on 29th July 2023 coinciding with the 3rd anniversary of the National Education Policy 2020 at Bharat Mandapam, Pragati Maidan, New Delhi. The two-day Samagam encompassed 16 Thematic sessions, which also included a session on 'Capacity Building in Logistics Sector through PM Gati Shakti National Master Plan' that sought to bring together industry and academia perspectives on fulfilling the vision of NEP 2020 through PM Gati Shakti National Master Plan. The session was hosted by NITIE Mumbai which is the designated nodal hub for Capacity Building in Logistics and Supply Chain under the PM Gati Shakti National Master Plan.

Based on **section 11.12** of NEP 2020, NITIE has developed 14 multi-disciplinary courses aligned with the PM Gati Shakti National Master Plan, taking inputs from various industries to enhance **"greater industry-academic linkages"**. These template courses were also shared with other institutes, and all the institutes are free to tailor these courses or introduce new courses based on their focus areas in tune with PM Gati Shakti National Master Plan. This also supports a **"vibrant research and innovation culture"**, as proposed in National Education Policy (NEP) 2020. Institutions can also offer projects, case studies, internships, etc., in the different application domains of logistics.

To provide the best quality learning and knowledge sharing with a large number of students and industry participants, Institutions are offering Global online courses in the emerging area of logistics and supply chain. Such courses are in accordance with **sections 12.8** and **24.1** of NEP 2020 pertaining to "**Internationalization of education"** and "**Online/Digital education"** respectively. Through these multiple windows of learning, till date more than 17500 students and professionals have been trained in logistics and supply chain domains, making them industry ready and fit for gainful employment. This will help in realizing the **"fourth industrial revolution"** as per **section 11.4** of NEP 2020. Also, this is in line with **section 20.6** of NEP 2020 pertaining to **"Professional Education"**.

1.1 Objective

The objective of the thematic session was to bring together **academia and industry perspectives** on ways to foster capacity building by creating **synergy & integration between the logistics sector, knowledgeable workforce & trained manpower,** subsequently leading to a reduction in logistics cost & accelerated economic growth. The session focused on the importance and need of the PM Gati Shakti initiative. It delved into the various initiatives undertaken by different institutes and ministries.

The **Chairperson** and the **panellists** of the session were:

Chairperson	Prof. Manoj K Tiwari, Director, NITIE Mumbai
Panellists	Prof. S. G. Deshmukh, Mechanical Engineering, IIT Delhi
	Mr. Suresh Kumar R., Managing Director, Allcargo Terminals Ltd.
	Mr. Vikram Jaisinghani, CEO, Adani Logistics Ltd.
	Prof. Biswajit Mahanty, Industrial & System Engineering, IIT Kharagpur
	Prof. Prasad Krishna, Director, NIT Calicut
	Ms. Ruma Kishore, Director, Global Digital Transformation Customer Experience, Unilever

2. Issues

The session involved discussion around the following issues facing the country's logistics sector:

- **High cost of logistics**: The logistics cost in India is very high as it includes cost of transportation, inventory as well as management. The logistics cost in India is 13-14 percent of the GDP whereas the logistics cost of other major economies of the world is 8-9 percent. Transportation accounts for most of India's logistics cost (around 53%), followed by warehousing (12%), and material handling (10%).
- **Excessive dependence on Roads**: Despite higher cost of road transport in comparison to railways and waterways, 64.5% of goods are transported through roads as compared to 25% globally.

- **Lack of skilled workforce**: India faces shortage of skilled man-power in the logistics sector and there is a need to train 60,000 professionals (engineers, managers etc).
- **Lack of digitalization**: Inadequate digitalization of logistics eco-system of the country is yet another challenge. This includes Automation, Real-time control and Information Management.
- **Fragmented logistics supply chain**: In India, the supply side is hugely fragmented leading to issues of efficiency and optimization, sustainability and transportation. India has about 200 shipping agencies, 36 logistics services, 129 inland Container Depots, 168 Container Freight Stations, 50 IT ecosystems, banks and insurance agencies largely working in silos.

3. **Discussions**

Prof. Manoj K. Tiwari, Director, NITIE Mumbai

The chair of the panel, Prof. Manoj K. Tiwari started the session by emphasising on the importance of the PM Gati Shakti National Master Plan. He said that PM Gati Shakti is heralding a new chapter in governance. PM Gati Shakti is under the DPIIT. Gati Shakti is a digital platform that aims to facilitate integrated planning and coordinated implementation of infrastructure connectivity projects by bringing together 16 Ministries, including Railways and Roadways. It will give boost to innovation and development to the country and digitalise the infrastructure development. He also said that engineers, managers and other skilled personnels are required to meet the necessities of the logistics sector. It is need of the hour to create an ecosystem which needs particular knowledge of the system. For this, a series of workshops has been conducted which includes directors of IITs, NITs etc.

Further, he said that BISAG- N has the required data for the logistics master plan such as data of latitudes, longitudes and locations. With this data, things can be done very easily in a timely manner. Air cargo handling, food supply chains, other technologies such as machine learning, 3-D printing, blockchain- all these can be connected with the new system. NIT Calicut has established a centre of excellence for capacity building and supply chain management. The logistics cost in India is 13-14 percent to the GDP. The logistics cost of the rest of the world is around eight percent. India aims to reduce the logistics cost by 7.5 percent in the next five years. The PM Gati Shakti National Master Plan is intended to promote rapid infrastructure growth, but it necessitates a variety of skills and knowledge to manage the issues brought on by the logistics industry's exponential growth, which has a huge impact on a sizeable portion of our GDP.

Prof. S.G. Deshmukh, Mechanical Engineering, IIT Delhi

Prof. S.G. Deshmukh said that PM Gati Shakti NMP has changed the rules of the game and this is equally challenging for practitioners and academicians. National Education Policy 2020 is about inter disciplinary education, innovation and entrepreneurship, strong collaboration with the industry. Drawing insights from the National Education Policy 2020, there is a focus on designing multidisciplinary and industry-relevant courses. These courses aim to facilitate the successful execution of the PM Gati Shakti National Master Plan and establish a strong groundwork for robust economic growth. Research and development are influenced by context and content. Logistics sector is the back-bone of many sectors as it provides support to a number of sectors. The logistics cost in India is very high as it includes cost of transportation, inventory and management. The target is to reduce the logistics cost to one- digit and make our goods competitive at the global level. For this purpose, he said, the National Logistics Policy has to be properly implemented.

He also highlighted the use of waterways. He gave an example of Indo-Bangladesh Protocol under which 900 tonnes of steel were transported from West Bengal to Bangladesh via Agartala which saved huge logistics cost. He also gave another example of logistics model such as the Public System labs created by IIT Delhi. Data from PM Gati Shakti platform provides useful forum for locating optimal facilities. IIT and NIT alumni have developed a number of delivery systems such as Shadow fox, Delhivery etc. to transport goods and improve quality of services.

Prof. Deshmukh focussed on the collaboration between the industry, startups and academia for the development of the logistics sector. He said that India stands at the 38th position in World Bank's Logistics Performance Index which needs to be improved further.

Shri Suresh Kumar R., Managing Director, Allcargo Terminals Ltd.

Shri Suresh Kumar R., MD, Allcargo Terminals Ltd. highlighted that new India has strong roots with cultural heritage. He presented that a number of revolutions have happened in India such as Green revolution, LPG reforms, Telecom revolution, Banking revolution, e-commerce revolution and now is the turn of logistics revolution. The logistics industry will grow faster and everything around logistics will grow simultaneously. Allcargo Terminals has made 2500 direct trade lanes for shipping throughout the world. It has warehousing centres, logistics support and with this, capacity building becomes very important which requires partnership between industry and academia.

He further said that Allcargo Terminals has collaborated with NITIE Mumbai to train 300 personnel from Allcargo Terminals in the logistics sector. He also emphasized the key role of logistics infrastructure and its impact on the efficient movement of goods, connectivity to global markets, warehouse automation,

freight services, streamlined customs processes, carrier networks, shipping management, last-mile delivery, multimodal transportation, container freight stations, inland container depots, third-party logistics, and contract logistics.

Shri Vikram Jaisinghani, CEO, Adani Logistics Ltd.

Shri Vikram Jaisinghani highlighted that Adani Logistics Limited (ALL) stands out as the country's most versatile end-to-end logistics service provider, operating in all major markets. The company excelled in serving diverse customers across various segments, including Retail, Industrial, Container, Bulk, Break-Bulk, Liquids, Auto, and Grain handling. He emphatically mentioned the role of ports, shipping, and the infrastructure around ports, airports, and railways. He also highlighted the current requirements of expertise and training for seamless loading, unloading, and multimodal transportation operations.

Prof. Biswajit Mahanty, Industrial & System Engineering, IIT Kharagpur

Prof. Biswajit Mahanty described the three main aspects of digitalisation of logistics system: Automation, Real time control, Information Management. He said that there were 110 crores mobile users in India and about 48.3 percent of the population are internet users. About 32 percent use an online financial service. But, the dependency of small fleet owners on third party booking agents leads to delays and loss of business. It can be corrected through presence of digital booking agents.

He further emphasized that modern infrastructure along with integration of efforts of all the stakeholders is required to fill the gap between the first and last mile of the logistics system. This can pave the way for India to become a 5 trillion-dollar economy by 2025 and 10 trillion-dollar economy by 2030. The government has laid a strong foundation for making India a developed nation by 2047. Technology has to play a major role in it.

Prof. Mahanty quoted the example of BISAG- N whose objective is to undertake capacity building, research and development, technology management, development in areas of space and geo-spatial technology. Geo-spatial technologies, information systems, and mathematical science systems have collectively captured nearly 1500 layers of data which can be used in deciding right location of utilities, disaster management, reconfiguring health infrastructure, mapping geographical information, setting of mandis using geo spatial data etc.

Further, he mentioned that certain digitalization challenges such as shortage of man power, supply chain optimization, non-availability of on- demand freight etc. Top-tier institutes and universities are collaborating to develop a skilled workforce capable of tackling present and future challenges. NITIE Mumbai is at the forefront of capacity building efforts and is spearheading coordination with other institutions and AICTE. They have curated 14 courses that cater to both industry and technological perspectives, focusing on supply chain, logistics, and digital innovation.

Prof. Prasad Krishna, Director, NIT Calicut

Prof. Prasad Krishna stated that NIT Calicut has started a Centre of Excellence for logistics and supply chain management. He focused on high quality education and emphasised on technology connect and social connect. Along with this, logistics connect is also necessary. He also emphasized on environmental sustainability. For instance, he said Kerala has inland waterways, so inland transportation can be done for logistics supply.

He also said that India faces a shortage of skilled man-power and needs to train 60,000 professionals. Infrastructure development is to be connected with digital development. PM Gati Shakti NMP is integrating several ministries and

organisations. India can build logistics ecosystem by integrating different sectors and combining several groups such as cyber security, MIS, GIS and many more.

He further explained that Gati Shakti initiative will integrate infrastructure schemes from multiple Ministries and State Governments, such as Bharatmala, Sagarmala, inland waterways, dry/land ports, and UDAN, among others. It aims to enhance connectivity and competitiveness for Indian businesses by including Economic Zones like textile clusters, pharmaceutical clusters, defence corridors, electronic parks, industrial corridors, fishing clusters, and agri-zones. To achieve its goals, Gati Shakti will extensively leverage technology, utilizing spatial planning tools with ISRO imagery developed by BISAG-N (Bhaskaracharya National Institute for Space Applications and Geoinformatics).

He also said that NIT Calicut has started 15 courses in areas of logistics and supply chain management in NITIE Mumbai for capacity building, provide skills for training etc. There are several schemes such as KUSALA, PRAGATI and SAMARTH which are helping to support logistics and enabling Human Resource Development.

Ms. Ruma Kishore, Director, Global Digital Transformation Customer Experience, Unilever

Ms. Ruma Kishore highlighted that 9 out of 10 people in India use Unilever products. So, there is need of logistics for the supply of the services to satisfy the needs of the people. In terms of capability, HUL has developed largest transportation systems. India is delivering large number of cargos to the outer world. But our supply side is hugely fragmented.

She identified three main challenges: efficiency and optimization, sustainability, transportation and delivery agents. She discussed the importance of digitalization in the operations, structural optimization etc. Organisations which embrace

digital transformation and effectively incorporate it into their processes will see tremendous benefits and have a competitive edge in the future.

She also mentioned that real-time tracking and monitoring systems enable better inventory management, improved demand forecasting, product categorization and reduced lead times. She also emphasized equipping individuals with skills in data analytics, automation, and emerging technologies such as blockchain, GIS-based technology and the Internet of Things (IoT) through capacity building.

4. **Way forward**

The collaboration between PM Gati Shakti National Master Plan and NEP 2020 offers a transformative path for our country. Based on the deliberations held during the session, the following way forward can be suggested:

- Providing training to students and professionals in various multidisciplinary areas of logistics and supply chain management, including port operations, cargo handling, multimodal logistics, warehousing, and digitization, to tackle challenges effectively.
- Fostering innovation and support to new business ideas that can drive entrepreneurship and lead to the emergence of startups in the logistics and supply chain sector.
- Encouraging the development of projects and internships that align with the objectives of the PM Gati Shakti National Master Plan and NEP 2020 with a focus on creating new and inventive case studies in cutting-edge technology fields, which will contribute to capacity building and aid in reducing logistics costs.

5. **Conclusion**

Such a session has proven beyond doubt its huge benefit to bring the actual industrial problems to the students through electives, internships, and projects. This may lead to a more trained, skilled, and knowledgeable workforce who can take up the jobs with less difficulty and handle advanced tools and technologies. This way also, ease of doing business will be realized, and the efficiency of the logistics operation will improve. All this will lead to a reduction in the logistics cost.

The National Logistics Policy is the need of the hour for balancing the demand and supply side of the market. PM Gati Shakti National Master plan is the major policy that can be really beneficial in this regard. For the successful implementation of the plan, we need skilled man power, trained workforce, capacity building and supply chain management. A number of IITs and NITs are working on a number of courses and projects which are providing internships to a number of students in logistics and supply chain management. There is a need to focus on efficiency, sustainability and technology upgradation to implement the PM Gati Shakti National Master plan.