

Capacity Building in Logistics Sector through PM GatiShakti National Master Plan

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Digitalization of Logistic Systems

- Digitalization of logistic systems focuses on 3 main aspects – **automation, real-time control, and information management.**
- There are 5 technology drivers for digitalization – **Internet of things, cyber-physical systems, big data analytics, blockchain and cloud computing.**
- **How digitalization help in the capacity building of logistic systems? How have PM GatiShakti initiative focussed on these key issues?**

Digitalization of Logistic Systems

- India has made rapid progress in **digitalization**.
 - It has 110 crore **mobile users**,
 - 69.7 **crore internet users** (about 48.3% of the population)
 - About 32% of the population use an **online financial service**.
- But, when it comes to the **road transport**, 80% of the fleet owners are small (less than 5 trucks), and are dependent on the **third party booking agents** leading to delays and loss of business.
- All this can change - thanks to the digitalization initiatives and the presence of “**digital booking agents**” today.

PM GatiShakti National Master Plan

- In order India to become a 5 trillion-dollar economy by 2025 and 10 trillion-dollar economy by 2030, the gap between **first and last mile** of the logistic systems should be filled.
- **Modern infrastructure** is needed for this and this is where PM GatiShakti National Master Plan is of paramount importance.
- This master **plan integrates** the efforts of all the stakeholders, which includes different logistics infrastructure and different **social ministries** working towards common goal.
- Many **silos are broken** in the process.

BISAG-N Example

- An example could be found in the **GIS and geo-spatial technologies** implemented by Bhaskaracharya Institute for Space Applications and Geoinformatics for **major Ministries** and **almost all States**.
- Close to **1500 layers of data** are already captured through **geo-spatial technologies, information systems, and mathematical science systems**.
- Integration brings in **synergy of operations** which can drastically reduce cost and time overrun in capacity building in the logistics sectors.

BISAG-N Example

- **Right location of utilities** such as a warehouse, or a location hub, could be done found without even visiting the place. It is also possible to find out digitally the kind of **clearances required**.
- In case of any **disaster**, through various applications of BISAG-N, Actions could be pre-planned in terms of **inventory prepositioning**, as well as the **number of hubs**, and **helping centres** to be created.
- Under any disruption, **rerouting** of transporting services can be done in the most efficient way.

BISAG-N Example

- In agriculture, policymaking would be much more effective by mapping information such as **soil quality, groundwater level, water availability, and climate**.
- Setting up **mandis, markets, or distribution centres** can be planned optimally using information available at BISAG-N – thus helping in a smooth transaction of **agricultural produce** from farmers.
- A similar kind of advantage would be available in the health sector in terms of setting up **health infrastructure equitably** reconfiguring the existing health infrastructure in a fair and distributed manner.

Digitalization Challenges in Logistics

Capacity Building

- Creation of **standards in operations** and **protocols** so as to achieve seamless experience for the stakeholders.
- **Connected IoT devices** to enable visibility and traceability for making more responsive decisions.
- Availability of **on-demand freight** – the need for internet-based platforms as freight marketplaces where goods- and fleet-owners can bypass brokers and interact directly.
- Availability of **right as well as on-demand manpower**. When it comes to the transport sector, the shortages are mind-boggling.
- And last but not the least, **supply chain optimization**.

Supply Chain Optimization

- we have done extensive supply chain optimization work in our research group in the **Indian food distribution system** related to procurement, storage, and distribution.
- There are **skewness** in the production, PDS demand, and storage capacity – which has led to increased **transportation requirement** as well as intensification of grains production leading to **rapid exploitation of resources** such as groundwater.
- The **integrated solutions** found will lead to procurement and distribution becoming not only more **fair and equitable**, but also **sustainable**.

Manpower and Training

- Premier institutes and universities are working together to **create a trained workforce** to address the current and future challenges.
- NITIE Mumbai has taken lead in **capacity building and coordinating** with all the other institutions and AICTE. They have developed **14 courses** keeping both the industry and technological point of view – on supply chain, logistics, as well as digital innovation.
- IIT Kharagpur runs multiple courses in the area of **logistics and supply chain management, transportation, and geo-informatics**.
- Numerous students are doing their **research** in these areas. A good number of students are doing their **internship** in the logistics area.

Concluding Remarks

- Combining all the developments happening simultaneously at multiple levels, we shall have **amplifying effect** in fulfilling the primary objectives of the PM GatiShakti National Master Plan.
- **Digital transformation** embraced by the organizations and their effort to integrate it into their processes will bring much-needed fruits in days to come and help them remain **competitive**.
- PM GatiShakti Master Plan and Capacity Building initiative will **transform** the country's logistics sector landscape with trained **human resources**, state-of-the-art **infrastructure**, and a business-friendly **policy**.

THANK YOU