

CIVIL-MILITARY FUSION IN INFRASTRUCTURE & LOGISTICS POLICY DOMAINS BY LEVERAGING NATIONAL LOGISTICS POLICY & PM GATI SHAKTI

Brig Mandeep Grewal, VSM*

National Logistics Policy (NLP) and PM Gati Shakti are seminal Government initiatives based on which the Indian Logistics Sector is at the cusp of a major transformation. These form the binding edicts to coalesce the myriad dimensions of logistics in India, with the aim to put on table bespoke solutions for this critical but important Sector.

In view of the major connectivity infrastructure impetus and policy re-alignment that will be accrued through these two path-breaking initiatives, it is imperative that Defence Forces get on-boarded, with their own bespoke infrastructure requirements duly dovetailed in the overall canvas of national infrastructure development. Accordingly, there is a need to assiduously identify defence infrastructure projects, both green field and brown field, and ensure their amalgamation in the PM Gati Shakti National Master Plan (NMP).

Tenets of NLP and PM Gati Shakti NMP and their Interplay in the Context of Civil-Military Fusion

In 2017, the Logistics Sector was granted infrastructure status by Government of India. Since then, there has been a perceptible focus on this sector, with unveiling of major policy changes. To nominate a lead agency, Logistics Wing (Division) was created under Department of Commerce, Ministry of Commerce & Industry on **07 Jul 2017**¹. It was

allocated the task of '**Integrated Development of Logistics Sector**'. Two other path breaking and seminal initiatives by the Government were promulgation of National Logistics Policy and PM Gati Shakti.

National Logistics Policy

The Draft National Logistics Policy (NLP)² was promulgated by Ministry of Commerce & Industry (Logistics Division) on **05 Feb 2019** and thereafter after taking views of all stakeholders, NLP-2022³ was promulgated on **28 Sep 2022**.

The vision of NLP is 'To develop a technologically enabled, integrated, cost-efficient, resilient, sustainable and trusted logistics ecosystem in the country for inclusive and accelerated growth'. Accordingly, the six key objectives of the policy are Integration, Optimization, Standardization, Modernization, Formalisation and Democratization.

The policy identifies logistics as a function of three key parameters to include infrastructure, services (processes, regulatory framework and digital systems) and human resource (HR). It further brings out that development of integrated infrastructure will be spearheaded by PM Gati Shakti and the other two parameters i.e. services and HR will be covered by NLP.

The NLP identifies for itself three achievable targets to include reduction in logistic costs in India by the year 2030 so that it becomes comparable to international benchmarks, improvement in Logistics Performance Index (LPI) ranking so as to reach top 25 by 2030 and generate 'data driven' decision support mechanism to achieve an efficient logistics ecosystem.

Comprehensive Logistics Action Plan (CLAP). The NLP 2022 identifies **eight Key Action Areas** for development of the logistics sector in India, which will be the focus of the relevant Ministries. These include Integrated Digital Logistics Systems; Services Improvement Framework; Logistics HR Development & Capacity Building; Standardization of Physical Assets & Benchmarking of service quality standards; State Engagement; EXIM Logistics; Sectoral Plan for Efficient Logistics

(SPEL); and Facilitation of development of Logistics Parks.

The Logistics Division under Ministry of Commerce & Industry will have the primary responsibility to drive the key action areas and facilitate alignment across key Central Ministries and State Governments.

PM Gati Shakti

PM Gati Shakti was launched on **13 Oct 2021** by Hon'ble Prime Minister for providing multimodal connectivity infrastructure to the economic zones. It is a digital platform to bring together 16 Ministries for integrated planning as well as coordinated implementation of infrastructure projects related to connectivity.

It was felt necessary to break the silos and to integrate all the existing/ planned initiatives being undertaken by various Ministries/ Departments for better synergy as part of a comprehensive National Master Plan. Economic zones (textile clusters, electronic parks, industrial corridors, defence corridors etc) will be provided with multimodal connectivity to enhance competitiveness of Indian businesses. This will boost economic growth, attract foreign investments and give a fillip to country's global competitiveness.

Role of BISAG-N. PM Gati Shakti National Master Plan has been developed as a Digital Master Planning tool by BISAG-N⁴ and has been prepared in dynamic Geographic Information System (GIS) platform wherein data on specific action plan of all the Ministries/ Departments has been incorporated within a comprehensive database. Dynamic mapping of all infrastructure projects with realtime updation tools will be provided by way of maps developed by BISAG-N. The maps are built on open-source technology and hosted securely on Meghraj i.e. Gol cloud. These use satellite imagery available from ISRO and base maps from Survey of India. All the stakeholders can create required layers in the system and update database through Application Programming Interface (APIs).

Envisaged Outcomes. Using an integrated approach, the National Master Plan aims at achieving enhanced efficiency through Compre-

hensiveness, Prioritization, Optimization, Synchronization, Analysis and by following a Dynamic Process.



Institutional Structure of PM Gati Shakti NMP. The institutional framework for rolling-out, implementation, monitoring and support mechanism is designed to have a three-tier sys to include Empowered Group of Secretaries (EGoS), Network Planning Group (NPG) and Technical Support Unit (TSU).

Both NLP and PM Gati Shakti are opportune and seminal Government initiatives. These will provide the requisite impetus to arduous and complex logistics sector in India.

Civil-Military Fusion Dynamics

One of the major shortcoming of Draft NLP-2018 and NLP-2022 is that infrastructure requirements of defence forces have not been adequately addressed. While concepts like 'Viability Gap Funding' have been introduced to push projects not financially viable, one of the main focus area for this funding should logically have been defence infrastructure projects, which are constructed from the prism of security needs. But, these seemingly coherent linkages are missing.

The perceived shortcoming of the NLP seem to have been overcome with the Gati Shakti initiative. The following developments support this line of thought-process:-

- The Logistics Division and all Infrastructure Ministries have reached out to Defence Forces to moor military requirements in National Master Plan.
- There has been an assiduous endeavour to identify 'Dual Use Infrastructure', duly factoring in the infrastructure requirements of Defence Forces.
- The Network Planning Group, the sword arm of planning & implementation of Gati Shakti, has expressed willingness to act as a catalyst to push cases pending with Ministries/ State Government for clearances and sanctions.

Calibration of Own Approach. Notwithstanding the above, the Armed Forces need to draw a fine line in projecting their critical infrastructure requirements, especially in hinterland. To that effect, a calibrated approach will pay handsome dividends. The contours of the same are elucidated as under:-

- For optimum leverage, the military requirements must ride on planned civil infrastructure projects. This will ensure requisite traction in sanction and execution. Therefore, for adequate resonance with decision makers, the spirit of 'dual use' should always be implicitly factored-in in all defence proposals, where feasible.
- At this nascent stage, there is an all-pervasive zeal to ensure overwhelming success of Gati Shakti initiative. Coupled with sizeable allocation of funds and gradual integration of other stake holders, it presents the Defence Forces a 'fleeting window' to robustly push their infrastructure cases.
- The integration of Defence Forces at the inception stage of the platform will set a precedent to leverage all future civil infrastructure projects in their alignment with defence requirements.

- Legacy understanding of GIS, and its myriad features, places Defence Forces at a higher pedestal of understanding to leverage the NMP Portal to their advantage and ensure requisite coalescing of defence-specific projects.
- This is an opportune moment to break from legacy 'infrastructure utilisation dogmas' and profess inclusiveness in usage of defence infrastructure for multitude of agencies, government or otherwise.

In sum, the NLP and PM Gati Shakti have manifested at an opportune time for Defence Forces and their innumerable features must get leveraged to push sui generis defence logistics infrastructure projects.

WAY FORWARD FOR CIVIL-MILITARY FUSION IN INFRASTRUCTURE DOMAIN

Infrastructure Projects Listed by Central Ministries in PM Gati Shakti.

Based on National importance & priority, the Infrastructure Ministries have identified and short-listed **614 infrastructure projects**, which need to be **completed by 2024-25**. These projects have been uploaded on PMGS-NMP Portal. All these projects are at blue print stage and likely to be sanctioned in near future. At present, the consolidation of these projects is underway, so as to optimise their construction and on-board requirements of all Ministries on these alignments. There is a need to identify projects

A Giant Stride in India's \$5 Trillion Economy Goal

PM GATI SHAKTI: NATIONAL MASTER PLAN

Multimodal Connectivity Infrastructure to various Economic Zones

Targets upto 2024-25 for Economic Zones Ministry of Defence

- Development of Two Defence Corridors
- Target investment of over ₹10,000 crore each for the 2 corridors
- Turnover of ₹1,70,000 crore including export of ₹35,000 crores in aerospace and defence goods & services by 2025

out of these, which have a bearing on defence infrastructure. Proposals aligned with these high priority projects have the highest likelihood of sanction and time-bound implementation.

Road Infrastructure Projects

Road infrastructure is crucial for India's economic growth since 70% of goods traffic and about 90% of the passenger traffic relies on the road network. A total of **215 projects** have been prioritised as part of PM Gati Shakti. These include **27 road corridor projects** totalling to 14,270 Km, **38 economic corridor projects** for a cumulative length of 20,768 km, **seven expressways** for a total length of 2,398 Kms, **18 greenfield corridor projects** of 5,310 Km length and **68 port connectivity projects**. Majority of these projects are at the stage of being awarded or are under construction.

The expressways will have world-class infrastructure and passenger amenities to include advanced traffic management systems, trauma centres, ambulances, fire brigades, traffic police, bus bays, interchanges, recreational facilities, food courts and refuelling facilities. The projects will have environment-friendly features that include water harvesting spots and tree plantation on both sides of the corridor. All the greenfield expressway projects have been planned with an aim to decongest major cities.

A detailed analysis of these 'High Impact' & 'Priority' Infrastructure Projects with respect to their applicability in defence domain is essential. The ibid analysis will then culminate into specific recommendations on these projects with respect to '**Critical Infrastructure Gaps**' and '**Last Mile Connectivity**' for meeting operational and peace-time requirements of Defence Forces.

Multi-Modal Logistics Parks (MMLPs)

A total of **39 MMLPs** are being planned to be set-up pan-India as part of **Bharatmala Pariyojana**. The construction of these MMLPs is well-timed and can be suitably exploited by Defence Forces to smoothen military logistics supply chains.

Integration of Defence Requirements at MMLPs. There is a necessity to integrate the requirements of Defence Forces in all MMLPs being constructed. To that effect, the following is recommended:-

- All MMLPs must sign an agreement with LMA (Local Military Authority) that on invoking of War Book or issuance of orders for general mobilisation for defence forces, the infrastructure will be re-oriented towards defence logistics requirements.
- Arrangements for peace-time utilisation be worked out and published, both for direct use by defence logistics and for contractors who aspire to utilize the infrastructure for supply to defence forces.
- All railway sidings must construct defence specification ramps for loading/ unloading of vehicles.
- There is a requirement to construct warehousing facility for Defence Forces in these MMLPs, which can then be used for storage of critical spares, equipment and other logistic stores.
- The management committees of MMLPs must have a representative from LMA for liaison, planning and feedback on defence related logistics.

While most listed MMLPs are civil agency led, there is a case that some of these can be Defence Forces led, with 'dual use of infrastructure' clause for civil agencies.

Rly Projects

The Ministry of Railways has identified **251 rail projects** to include new lines, doubling and gauge conversion projects which are scheduled for completion by 2024-25. Defence railway infrastructure requirements must get incorporated in these.

Airports & Heliports

Ministry of Civil Aviation has proposed development of **109 Airports/ Heliports** in the country by the year 2024 which includes 51 Airports, 18 Greenfield Airports, 12 Water Aerodromes and 28 Heliports. These must be leveraged for defence requirements.

In summation, the alignment of defence infrastructure requirements with the high impact projects of roads, MMLPs, railways, airfields and heliports will give Defence Forces the fastest dividends since all these projects are high priority and at blue print stage.

Development Projects

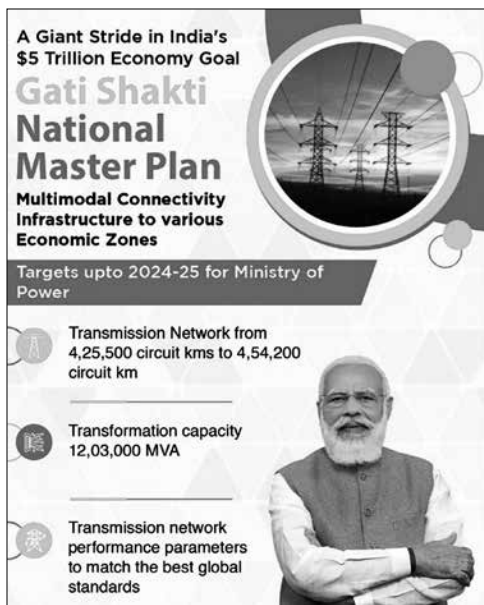
Electrification of Border Villages. Government of India, Ministry of Power has launched the Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) to improve the quality and reliability of power supply in rural areas. Rural Electrification Corporation (REC) is the nodal agency for implementation of DDUGJY. 28 Apr 2018 was the landmark day when electrification was achieved in all 18,374 un-electrified villages in the country. International Energy Agency (IEA) has acknowledged that 'India's move to energize every village in the country with electricity is one of the greatest success stories of the world in 2018'⁵. However, the power consumption especially in the border villages is increasing every day and there is a need to carry out a detailed analysis for capacity upgradation with respect to installation of new Sub-Stations, augmentation of capacity of existing Sub-Stations, proliferation of Distribution Transformers, finalise alignments of High Tension (11 & 33 KVA) and Low Tension Lines and implementation of Feeder & Consumer Metering. The infrastructure layers of Ministry of Power on National Master Plan portal should be used for robust upgradation of 'Electrification Status' of all border villages i.e. those within 25 km distance from borders.

Increase in Cellular Tower Density. One key deliverable of National Broadband Mission⁶ is to enhance connectivity and improve quality of service by increasing cellular tower density, to be at par with countries leading in telecom infrastructure. This will address the demands of new and emerging technologies such as 5G which has been recently rolled-out and to cater for high mobile data consumption and phenomenal increase in the number of broadband users. The existing tower density is 0.42 towers per thousand population with around 5.65 lakh towers. This needs to be increased to 1.0 per thousand population, with setting up of an additional 10 lakh towers. Using the PMGS-NMP, the cellular tower density along border areas should be increased to cover all gaps in cellular connectivity.

Acceleration of Fiberization. Another key deliverable of National Broadband Mission is to accelerate Fiberization. Under this, it has been proposed to increase the present route length of 22 lakh km OFC to 50 lakh km. This is being achieved by working with States/UTs to align their Right of Way (RoW) policy with the Right of Way Rules notified by the Central Government and support a workable financial model for common ducting. Necessary tools have been built in NMP for paperless & timely RoW clearances. Fiberization (OFC) projects of Defence Forces must leverage these tools for faster clearances and implementation.

OFC Connectivity to Gram Panchayats & Villages. Bharat Net,⁷ also known as Bharat Broadband Network Ltd, is a government-owned broadband infrastructure provider, set up by Department of Telecom, under Ministry of Communication for establishing, management and operation of the National Optical Fibre Network to provide a minimum of 100 Mbps broadband connectivity to all 2,50,000 Gram panchayats in the country, covering nearly 6,30,000 villages, by improving the middle layer of nation-wide broadband internet in India, to achieve the goals of Digital India. As of Jul 2021, Phase-I has been completed and 1,50,000 Gram Panchayats and associated villages have been made service ready with 5.09 lakh km of OFC laid. Bharat Net Phase-II, to connect the remaining gram panchayats and villages, will be completed by 31 Mar 2023. All gram panchayats and villages in border areas (10 km belt from IB) should be connected with OFC/ Broadband on priority. In addition to the development of the border region and ensuring its amalgamation in main stream, it will also help the Armed Forces in having viable duplicity in communication infrastructure. The Department of Communication has already uploaded the 'OFC Layout layer' in PMGS-NMS, with dynamic updation. The features of the same should be used to identify gaps in OFC layout and the same be thereafter prioritized for completion.

Solar Power. National Solar Mission (NSM) was launched on 11 Jan 2010⁸. It is a landmark initiative of Government of India with active participation from States to promote ecologically sustainable growth while at the same time addressing India's 'energy security' challenges. The Mission's objective is to position India as a global leader in solar energy by creating favourable policy ecosystem for diffusion of solar technology



A Giant Stride in India's \$5 Trillion Economy Goal

Gati Shakti National Master Plan

Multimodal Connectivity Infrastructure to various Economic Zones

Targets upto 2024-25 for Ministry of Power

- Transmission Network from 4,25,500 circuit kms to 4,54,200 circuit km
- Transformation capacity 12,03,000 MVA
- Transmission network performance parameters to match the best global standards

PM Narendra Modi



Gati Shakti National Master Plan for Multi-Modal Connectivity

National Master Plan for Multi-Modal Connectivity

Salient Features

- Vision to build 4G mobile connectivity in all villages by 2022
- Extension of transmission network
- Extending last mile connectivity
- Make a system of seamless connectivity
- To generate employment opportunities
- Create an environment of ease of living and ease of doing business
- Improvement in Next Generation Infrastructure

PM Narendra Modi

across the country. Itstarget is to install100 GW grid-connected solar power plants by the year 2023. By Jun 2022, India has achieved an installed capacity of 56.951 GW and reached 5thglobal position in solar power deployment. 42 solar parks have been established and 36.03 GW of solar projects are under different stages of implementation. The following is suggested:-

- As part of this initiative, unutilized defence land parcels should be identified to install 5 MW or more solar projects.
- These solar projects will be timely contribution of Defence Forces to the green initiative. These will be ideal projects of civil-military fusion. The burgeoning electricity bills of Defence Forces will be partially mitigated. The threat of encroachments of defence land and the need for guarding the same will be taken care of.
- It is recommended that agreements be worked out with Electricity Departments of State Governments for the generated electricity to be connected and uploaded on the grid. This metered contribution to the Electricity Grid can then be adjusted by the Electricity Department against the electricity bills at various Cantonments/ Military Stations.

The proclivity of Defence Forces to work in isolation to plan infrastructure projects will squander the limited allocation of funds under the defence capital budget. Military infrastructure projects must coalesce with national infrastructure projects. These must get juxtaposed with civ infrastructure projects, to address all incongruities at planning stage itself. Thereafter, synergised implementation will result in their requisite induration.

POLICY PROPOSALS FOR FUSION OF MILITARY LOGISTICS WITH NATIONAL LOGISTICS

Policy & Facilitation Issues

NMP Portal. User access on NMP Portal be provided to key appointments of Defence Forces for its effective exploitation.

Uploading of Layers. MoD should upload various non-sensitive layers concerning its functioning on NMP. Defence Forces should compile and upload non-sensitive infrastructure layers, with requisite access rights, to exploit features of NMP.

Facilitation of Clearances, NOCs & Approvals. Access to NMP Portal by functional appointments will also enable them to use the tools in the portal for facilitating clearances, NOCs & various approvals from stakeholder Ministries like Ministry of Environment, Forest & Climate Change etc to ensure speedy implementation of new projects, as also pushing long struck cases. The infrastructure projects, the clearances for which are pending with State Governments, can also be taken up. There is a Nodal Officer for PM Gati Shakti in each State Government who can be approached by NPG to expedite requisite sanctions.

Palletisation and Containerisation. There is an all-pervasive need for Armed Forces Logistics to gravitate towards Palletisation/ Containerisation. As per industry norms, movement of stores in CHTs beyond 500 km is sub-optimal utilisation of the asset class and railways should be the preferred mode. Containerisation will lead to overcoming this shortcoming. At present there is lack of handling infrastructure for pallets, which will be overcome with creation of MM Logistics Hubs equipped with all cargo handling machinery, especially LOLO⁹

infrastructure. It is well documented that palletisation of cargo leads to lowering of costs and also prevents handling losses. The containers are RFID tagged and are easy to monitor with respect to their movement in the logistics chain. These also contribute to reduction in pollution and is a green initiative. The specific proposal recommended for defence forces is:-

- With the completion of Western DFC¹⁰, all movement of logistics stores from Central and Southern India should be only by dedicated defence containers. These containers can be unloaded at MMLPs under the supervision of defence representatives duly incorporated in the management of MMLPs.
- The DFCs are the way forward and in addition to Western DFC, the Eastern DFC¹¹ is under construction and East-West DFC¹² has been announced in Budget 2021.
- Aligning of defence logistics with the DFC mode of transportation will allow us to leverage the best mode of transportation, as these are futuristic, high speed with reduced turnaround time of rolling stock, reduced unit cost of transportation and with rationalised tariffs. It will also address the issue of **skewed modal transportation mix**, wherein presently in India 60% freight is moved by road and only 30% by rail, against the global benchmark of 25-30% by road and 50-55% by rail.

Reforms in Civil Transport Hiring Domain. The most fragmented sub-sector in logistics today is 'transport sector', with crying need for major reforms. As per MoRTH website, 75% of owners own less than five trucks in the Trucking Industry. Juxtapose this reality with the fact that each government agency today regularly hires transport. However, this hiring is done piecemeal by each agency. There is a need to aggregate the requirement of various government agencies, including defence forces, at District level under a District Transport Cell and thereafter enter into consolidated contracts. The way forward is to nominate one agency in the District HQ to carry out consolidated hiring for all users. The District Transport Officer is ideally suited to take on this task. Defence representatives can be suitably dovetailed to curate military-

specific hiring. The annual rate contracts for various classification of vehicles, under varied clauses, can then be concluded. Thereafter, the truck owners can register with the District Transport Agency and provide vehicles, as required, at pre-fixed rates. This hiring model can also have a clause wherein superannuated government/ defence drivers can register with vehicles, bought from soft loans offered by Government, with the Government having a lien over hiring of these vehicles. An arrangement like this will also mitigate the nebulous nature of requisition/ impressment of civil transport which is planned to be carried out during operations. The Gati Shakti NMP platform can be used for verifying vehicle/ driver details and track movement of transport. It is recommended that under PMGS-NMP, a pilot project be carried out.

Synergy in policy domain and impetus to various facilitation issues will create the requisite momentum in aligning the civil and military logistic requirements.

Thrust Areas of National Logistics Policy 2022

There are eight Key Action Areas¹³ under the concept of CLAP mentioned in NLP-2022, which cover both infrastructure and policy domains. Aligning military logistics to the postulates of NLP will allow us to leverage the focus areas of the Government, thereby creating a win-win situation. The applicability of these action areas on specific defence domains is covered in this sub-part.

Strengthening of Warehousing Sector. By convention, defence forces don't maintain gargantuan warehouses and are proponents of 'Just in Time' logistics. However, one domain where modern warehousing could be implemented is CSD stores. The present CSD Warehousing is archaic and needs to align itself with modern warehousing practices. Effective warehousing can bring a 15-20% cost reduction in the entire logistics operation.

Viability Gap Funding. The NLP elucidates concept of non-lapsable Logistics Fund to drive progress in key thrust areas. One of the identified areas of its expenditure is 'Viability Gap Funding' for remote areas. However, it is conspicuous in not identifying the defence sector

requirements for expenditure of this fund, which in most cases will be economically un-viable. A case needs to be taken up for inclusion of defence sector requirements under this funding.

Generate Employment & Enhance Skill. One of the key thrust areas of NLP is generation of employment and enhancement of skill levels for persons employed in Logistics Sector. The Logistics Fund also identifies one of its areas of expenditure as 'logistics skilling programs' and incentivising training institutes. Both the funds and the skilling programs must be used by defence forces to re-skill the agniveers/ ex-servicemen for their effective second career employment in logistics sector and Infrastructure Ministries.

Integration with ULIP. The logistics sector in India is unorganised and fragmented with large No of stakeholders. There is an informational asymmetry which results in increased transactional costs. The NLP envisions utilising Unified Logistics Interface Platform (ULIP), as a one-stop digital integrator of all logistics services. It will be single window transactional platform on-boarding various logistics service providers like transporters, warehousing providers, 3rd Party service providers, freight forwarders and various government agencies. While majority of defence procurement is presently being done on GeM (Government e-Marketplace), with a robust migration in last few years, the ULIP will be a niche domain platform bringing in more visibility and simplification of procedures. A cross-platform integration of GeM and ULIP can be a way forward for natural consolidation and meaningful symbiosis.

CSD Facility through e-commerce Platform. One of the path breaking steps in defence can be on-boarding of CSD facility through a standalone, defence specific e-commerce platform. This will obviate the need to have thousands of CSD stores across the country employing critical trained manpower in non-core activity. E-commerce in India is growing exponentially and with the penetration of mobile internet services, all defence persons are technologically savvy to place orders online. With a captive manpower of almost 25 Lakh (including ex-servicemen and defence civilians), the system will generate adequate volumes to break even and self-sustain. All CSD items can be catalogued and made

available online through an Application. The system will be akin to shopping on Amazon, an experience which majority of today's generation is quite apt at. The delivery, by itself, can be outsourced to a 3PL¹⁴ Firm, multitude of which are operating in the market, including some very innovative start-ups. Coupled with modern warehousing reforms, the CSD is in for a major transformation, riding on the focus areas of NLP.

Standardization in Logistics Sector. One of the principal reforms that can be undertaken in the Indian Logistics Sector is 'standardization' in logistics value chain to incl packaging, warehousing and transportation. These standards will ensure consistent service levels and quality of goods to the end user and thereby drive logistics efficiency. For the defence sector, the aspect of standardization assumes a heightened magnitude of importance. Typically, the peace time requirements of defence are limited and its integral logistics assets are adequate to cater for the same. However, during mobilization there is a quantum surge in the requirement of logistics resources and traditionally this surge is met by harnessing civil resources like trucks, civil trailers, trains, aircrafts etc. Elaborate plans exist to carry out requisition/ impressment of civil transportation resources. However, in certain category of vehicles, the dimensions of vehicles are not aligned and hence the civil transportation resource either can't be harnessed for the national cause or elaborate modifications have to be done to the civil vehicles to make them fit for employment by defence forces, albeit with a heavy time and resource penalty. For a nation like ours with strategic ambitions, this coalescing of civilian resources to that of wartime military requirement, will provide unparalleled dividends.

Recommendations for Refinement of NLP-2022. Based on the shortcomings noticed, a set of recommendations for refinement of NLP-2022 are as under:-

- Typically, the logistic resources of a nation can be classified under three distinct heads i.e. 'Military Use', 'Civilian Use' and 'Dual Use'. A Nation with strategic ambitions in the military realm, must constantly endeavour to expand the domain of 'dual use infra/ physical assets', as this will provide innumerable leverage points including saving of precious defence budget, fastest possible mobilization etc.

- As per NLP 2022, the three pillars for efficient logistics are Infrastructure, Services and HR Development. Out of these, infrastructure is planned to be addressed under PM Gati Shakti and Services (Processes, Digital Systems & Regulatory Framework) & HR Development under National Logistics Policy. There has been a sustained focus to on-board military in the infrastructure domain, however the alignment of defence requirements in Services and HR domain has been underwhelming.
- One of the identified targets of NLP is to mitigate logistic costs in India and make it comparable to global benchmark standards by year 2030. However, alignment of National Logistics to defence requirements may slightly temper this target. Notwithstanding, this strategic alignment has nuanced pay-offs and a suitable balance needs to be endeavoured by all stake-holders.
- The spirit and zeal of inclusiveness emanates from the 'Whole of Nation/ Govt' approach, which is the guiding light of these new age logistic initiatives. It is imperative to incorporate the defence requirement in order to leverage this all-encompassing, inclusive approach.
- While a number of Ministries have been identified to take action on the various Key Areas, MoD/ IDS/ Military has not been made a stated stake holder in any of the identified Key Action Areas of NLP-2022.
- For nuanced military perspective in any decision matrix, there is a need for incorporation of defence representatives in decision making bodies like EGoS/ NPG (PM Gati Shakti) / SIG-Services Improvement Group (NLP-2022).
- Efficacy to grant 'Sector Status' to Defence under SPEL (Sectoral Plans for Efficient Logistics), one of the Key Action Areas of NLP-2022, needs to be explored.
- National Logistics HR Strategy, another Key Action Area in NLP-2022, completely overlooks trained manpower of defence forces which can form an important segment for development of requisite

talent pool in logistics sector. Agniveers, who will exit the military service after four years and ex-servicemen can form an important source for this lateral talent induction.

- Leveraging National Defence University (NDU) to work on the domain of civilian-military fusion in the field of logistics.

The implementation of recommendations on the thrust areas of NLP will ensure that the requirement of defence forces are duly factored-in and the vision of NLP is achieved. Necessary correctives would then have been applied in the Civil-Military Fusion domain.

Conclusion

NLP and PM Gati Shakti are pivotal Government initiatives, which are bellwether in their manifestation. Leveraging on their innumerable features, the Indian Logistics Sector is at the rubicon for a major transformation. Both these form the binding edicts to coalesce the myriad dimensions of the gargantuan Logistics Sector in India, with the aim to present innovative solutions for this critical but important sector. In view of the major connectivity infrastructure impetus that is in the pipeline, it is imperative that Defence Forces harmonise their infrastructure projects on National Master Plan, duly dovetailed in the overall canvas of national infrastructure development.

***Brig Mandeep Grewal, VSM** was commissioned in the ASC on 10 Dec 94. He is an alumni of RIMC Dehradun, NDA Khadakvasla, IMA Dehradun, CDM Secunderabad & DSSC Wellington, for which he qualified on competitive vacancy. In staff, he has tenanted the appointments of GSO-3 (Intelligence) of a Mountain Brigade, AQMG of an Independent Armoured Brigade, Movcon in United Nations, AMS-4B & AMS-9A in MS Branch, Col Q of an Armoured Division, Col CAB at Complaints & Advisory Board COAS Sectt & Col ST in HQ Corps. The officer is presently tenanting the appointment of Brig ASC in a Corps in Western Theatre. He was awarded Vishisht Seva Medal in 2010 for his contribution to cadre management policy issues in MS Branch.

Endnotes

1. Logistics Wing (Division) was created under Department of Commerce, Ministry of Commerce & Industry by an amendment to the Second Schedule of Government of India (Allocation of Business) Rules, 1961.
2. National Logistics Policy-2018 issued vide Government of India, Ministry of Commerce (Logistics Division) vide Letter No 63/Logistics/2018 dated 05 Feb 2019.
3. NLP promulgated vide Gazette of India No 4575(E) dated 28 Sep 2022.
4. Bhaskaracharya National Institute for Space Applications and Geoinformatics.
5. <https://powermin.gov.in/overview>.
6. The National Broadband Mission was launched on 17 Dec 19 with a vision to provide affordable and universal access of broadband to all citizens of the country.
7. Booklet on National Broadband Mission issued by Ministry of Communication.
8. <https://mnre.gov.in/solar/current-status>.
9. LOLO is the industry acronym for 'Lift Off- Lift On' machinery which is a pre-requisite for handling containers.
10. The Western Dedicated Freight Corridor (DFC) is a 1,504 km long, under construction broad gauge freight corridor which will connect Dadri in UP with JNP in Navi Mumbai, Maharashtra. Approximately 720 km is operational and balance is under construction.
11. Eastern DFC is 1,873 km in length from Ludhiana in Punjab to Dankuni in West Bengal.
12. East-West DFC is 2,000 km in length from Dankuni to Palghar.
13. Appx A to NLP-2022 refers.
14. 3PL in the industry acronym for Third Party Logistics.