

THE SIGNIFICANCE OF MAKE IN INDIA IN SHIPPING AND ENVIRONMENT

Dr.X.Vincent Jayakumar

Assistant Professor of Economics, Ramakrishna Mission Vivekananda College, Chennai.

Introduction

Make in India is intended to make India a manufacturing hub of the world (atleast Asia, for that matter). The idea was to increase the contribution of the manufacturing sector to India's GDP. To accommodate the 300 million people who will join India's workforce between 2010 and 2040, each year 10 million jobs are needed. The thrust on the manufacturing sector will create about 100 million jobs by 2022. Make in India is an initiative of the Government of India to encourage multi-national, as well as domestic, companies to manufacture their products in India. It was launched by Prime Minister Narendra Modi on 25 September 2014. India would emerge, after initiation of the programme in 2015, as the top destination globally for foreign direct investment, surpassing China as well as the United States. Prime Minister Narendra Modi and his Ministerial team and the Chief Secretaries of the States prepared an action plan for turning the "Make in India" campaign into a manufacturing push. Captains of industry too were scheduled to participate in the workshop. By the end of the day-long event, organised by the Department of Industrial Policy and Promotion, the government is expected to have a to-do list for the coming Budget.

Sectors Identified

Twenty-five sectors, including textiles, automobiles, chemicals, information technology and pharmaceuticals, have been identified as focus segments. In September, the Prime Minister launched the "Make in India" campaign in Delhi at which a number of global corporate leaders, from Mukesh Ambani of Reliance Industries Ltd. to Lockheed Martin India CEO Phil Shaw, had pledged to invest and manufacture in India in response to Mr. Modi's call. The pitch had its origin in the Prime Minister's Independence Day speech when he invited global companies to pick India to locate factories, promising to replace red tape with a red-carpet welcome.

Develop five 'M's – man, material, machine, money and minerals

Prime Minister Narendra Modi wants the country to make 'Brand India' popular globally by ensuring that industry manufactures products with "zero defect" and no environmental effect. "One cannot stop at just 'Make in India'. We have to develop 'Brand India' globally. For that, we have to manufacture products that have global demand with 'zero defect and zero effect' (on the environment)," Modi said while addressing industrialists and Government officials at the Make in India meet on Monday. India has to concentrate on developing five 'M's—man, material, machine, money and minerals—and there can be no stagnation in these areas, Modi said. A financial sector meeting in the first week of January, which will mostly be related to banking, will concentrate on what role this sector should play for the fast development of these five 'M's, said the Prime Minister.

Developing HR

Stressing on the need for development of human resources, greater innovation and more research and development, the Prime Minister said these three should be part of one process and not isolated. "We have to look forward and see what kind of skills we want, and develop our workforce accordingly. For instance, if we want to manufacture bullet trains, we have to ask ourselves if we have the engineering force to achieve that," he said. Despite performing well in the IT sector, India has not been able to do any remarkable innovation in the area. "We have not been able to make a Google. Our talented manpower has gone outside. The best in the world should be born in India," Modi said, adding India's space scientists are showing the way toward excellence, and others should follow.

Advantages

1. Manufacturing sector led growth of nominal and per capita GDP. While India ranks 7th in terms of nominal GDP, it ranks a dismal 131st in terms of per capita GDP.
2. Employment will increase manifold. This will augment the purchasing power of the common Indian, mitigate poverty and expand the consumer base for companies. Besides, it will help in reducing brain drain.
3. Export-oriented growth model will improve India's Balance of Payments and help in accumulating foreign exchange reserves (which is very important given the volatility in the global economy with multiple rounds of Quantitative Easing announced by major economies).
4. Foreign investment will bring technical expertise and creative skills along with foreign capital. The concomitant credit rating upgrade will further woo investors.
5. FIIs play a dominant role (relative to FDI) in the Indian markets. However, FIIs are highly volatile in nature and a sudden exodus of hot money from India can effect a nosedive in the bellwether indices. Make in India will give an unprecedented boost to FDI flows, bringing India back to the global investment radar.



6. The urge to attract investors will actuate substantial policies towards improving the Ease of Doing Business in India. The Government of the day will have to keep its house in order (by undertaking ground breaking economic, political and social reforms) to market Brand India to the world at large.

Disadvantages

1. From a theoretical perspective, Make in India will tend to violate the theory of comparative advantage. If it is not economically feasible to manufacture a commodity in India, it is best to import the same from a country which enjoys comparative advantage in its production. International trade, after all, is welfare augmenting.
2. Reiterating the point made by Dr. Raghuram Rajan, India, unlike China, does not have the time advantage as it undertakes a manufacturing spree. The essential question is - Is the world ready for a second China?
3. Make in India will lead to an unsustainable focus on export promotion measures. One such measure is artificially undervaluing the rupee. This will have devastating consequences for the import bill.
4. A relative neglect of the world economic scenario may not augur well for Make in India. With the US and Japan economies yet to recover from their economic crises and with the EU floundering, one needs to be wary about the demand side of Make in India. The clairvoyance of the incumbent RBI governor to Make for India should be put to good use. Make in India is intended to make India a manufacturing hub of the world (at least Asia, for that matter). The idea was to increase the contribution of the manufacturing sector to India's GDP.

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Make in India and shipping

The 'Make in India' initiative of Prime Minister Narendra Modi offers a plethora of opportunities in the maritime sector, particularly in shipbuilding, with the Shipping Ministry projecting a quantum jump in the volume of cargo and passengers moved through water transport.

The Ministry is aiming to raise cargo and passenger movement through waterways from the current five per cent to 30 per cent in the next 15 years. This means that there will be demand for more coastal ships, barges and passenger vessels, which would offer more opportunities to local shipyards.

Waterways

According to industry experts, the government initiatives like Jal Vikas Marg and Sagarmala projects will enhance transportation through inland waterways considering the recent approval for the development of 101 waterways across the country. The emerging situation will demand huge requirement of dredgers and harbour crafts to improve infrastructure. Apart from this, the experts said, the country needs more ships and ports to handle liquid and gas cargoes. The oil exploration will move to deep water and the requirement for offshore support service will boost shipbuilding in the coming years.

Union Shipping Minister Nitin Gadkari also wants inclusion of maritime sector in the Make in India campaign to create more job opportunities. The Minister, who was in Kochi recently, called upon the public sector Cochin Shipyard to increase its capacity and to set up ship repair facilities in other ports.

This will not only boost production but help in setting up more ancillary units for making spare parts. According to him, the country is now depending on European markets to meet the requirements.

Maritime Transport is a critical infrastructure for the social and economic development of a country. It influences the pace, structure and pattern of development. The Ministry of Shipping encompasses within its fold shipping and ports sectors which include shipbuilding and ship-repair, major ports, national waterways, and inland water transport. Ministry of Shipping has been entrusted with the responsibility to formulate policies and programmes on these subjects and their implementation.

Shipbuilding scene

Referring to Indian shipbuilding scenario, Ajith Sukumaran, Principal Officer-cum-Jt Director General of Shipping of Mercantile Marine Department, Kochi said that the period between 2004 to 2008 had been the golden era for the industry.

Almost all yards were flooded with orders with foreign firms waiting in queue with joint venture offers including the government support with 30 per cent subsidy. However, the bubble bursts following the 2008 global recession leading many shipyards in the country to bankruptcy.

Today less than 10 per cent of our cargo is carried by Indian flagships and below three per cent of our foreign going merchant ships are built in India. Majority of Indian ships proceed to foreign dry docks for periodical repairs thereby reducing the stake of Indian shipyards in the global shipbuilding to an abysmal 0.3 per cent, he said.

JNPT eases cargo delivery to boost 'Make in India'

Just when PM Narendra Modi launched the 'Make in India' project in the financial capital of the country, Jawaharlal Nehru Port Trust (JNPT), the largest container terminal in India, started a new system of cargo clearance that will make it easier and faster for importers to import goods through this port.

Christened Direct Port Delivery (DPD), the system allows government-accredited reputed importers and importing agencies to take delivery of goods from the port soon after the arrival of ships, provided they comply with all the necessary paperwork in advance. In the regular course, importers complete their paperwork and pay their dues after a ship arrives at the port.

Soon after taking office in May 2014, the PM had visited JNPT and announced his dream of having a shipping port-led growth and making the country a hub for manufacturing. The DPD system is part of Modi's 'ease of doing business' initiative, port officials said. The logistics project at the port, which was initiated by the shipping ministry, will ensure greater competitiveness both for domestic and export oriented manufacturers. DPD will allow 143 customs-accredited importers to directly import and store them free of cost at the JNPT yard for three days for transporting them further to their respective destinations. The extension of DPD will enhance container movement at the port, thereby increasing cargo volume.

Anil Diggikar, JNPT chairman, informed that a decision has been taken to dispense with the minimum import volume criteria, that was in force till recently. It will now extend DPD facility to all accredited importers from the port's container terminal with immediate effect irrespective of their import volume. This will be on a trial basis for six months and continuance of the system beyond six months will be subject to operational convenience. Diggikar also said with this, a long-pending demand of the trade bodies will be met. "Under this facility, the import laden containers will be delivered to the consignees directly while reducing the burden of logistics cost," he said. According to Neeraj Bansal, deputy chairman, JNPT, the DPD scheme in the current format will ensure cutting cost of delivery and also the transport cost as the goods were loaded onto a different transport vehicle after obtaining the clearance from the customs.

Solarization of Ports

The Ministry of Shipping (MoS) has undertaken an initiative to implement utility-scale Solar Photovoltaic Power Plant projects at various major ports across the country. The Solar Energy Corporation of India (SECI) has been appointed as the overall project management consultant for these projects. An MoU has been signed in this regard between SECI and the Indian Ports Association (IPA), on behalf of the individual port trusts, to implement the solar energy projects. As part of this activity, installation of grid connected solar power plants in the following ports is underway. In addition, installation of rooftop solar power projects at various ports is also undertaken and the related processes has been started.

1. Visakhapatnam Port Trust, Visakhapatnam, Andhra Pradesh
2. Paradip Port Trust, Paradip, Odisha
3. Kolkata Port Trust, Kolkata and Haldia, West Bengal
4. Kamarajar Port Trust, Chennai, Tamil Nadu
5. V. O. Chidambaranar Port Trust, Tuticorin, Tamil Nadu
6. New Mangalore Port Trust, Mangaluru, Karnataka
7. Kandla Port Trust, Gandhidham, Gujarat

Shipping Activities and Environment

Port operation includes ship-related factors such as vessel traffic, ship discharges and emissions, spills and leakage from ships; and cargo related factors such as cargo handling and storage, handling equipment, hazardous materials, waterfront industry discharges, and land transport to and from the port. Environmental facets to be considered in relation to port development are categorized into nine groups: (a) water quality; (b) coastal hydrology; (c) bottom contamination; (d) marine and coastal ecology; (e) air quality; (f) noise and vibration; (g) waste management; (h) visual quality; and (i) socio-cultural impacts. Water quality includes five elements: (a) general features such as temperature, salinity, pH, colour, transparency, oil and grease, and organic material concentration measured by total organic carbon (TOC), chemical oxygen demand (COD) or biochemical oxygen demand (BOD); (b) turbidity measured by suspended solids (SS); (c) eutrophication related factors measured by dissolved oxygen (DO), nitrogen (N) and phosphorus (P); (d) harmful or toxic substances including heavy metals such as mercury, cadmium, lead, and pesticides; and (e) sanitation-related factors determined by measuring the amount of coliform bacteria.

Coastal hydrology cited here includes factors concerning currents, tidal flow, littoral drifts, beach erosion, water drainage, sediment deposition, groundwater flow, and other physical phenomena in the shore zone. Bottom contamination encompasses many kinds of contamination of bottom sediments by toxic or harmful substances, oils, oily mixtures and other

hazardous materials. Contamination of bottom sediments are often measured by the size of sediment particles, pH, colour, smell, oil and grease, organic materials, and concentration of organic nitrogen, phosphorus, sulphide, and toxic substances such as heavy metals and pesticides including toxic components of antifouling paints. Marine and coastal ecology includes aquatic fauna and flora composed of a large number of species of bacteria, phytoplankton, zooplankton, benthonic organisms, coral, seaweed, shellfish, fish and other aquatic biota, terrestrial flora such as mangroves and wetlands. Loss of bottom habitat and fishery resources are also significant problems included in this category. Air quality consists of two main elements: (a) soot and dust, measured by suspended particulate matter (SPM), which originate from dry bulk cargo handling and storage, construction work on land, and road traffic; and (b) concentration of sulfur dioxide (SO₂) nitrogen dioxide (NO₂), carbon monoxide (CO), and hydrocarbons (HC) emitted from ships, vehicles and various equipment used for port activities. Harmful substances and odour are also elements to be considered in this category. Noise and vibration generated by road traffic, cargo operations, ship traffic and other port activities also cause nuisances to local people.

Waste management

This relates to all kinds of wastes, both liquid and solid, likely to be disposed of in the port area. These wastes include dredged materials, garbage and oily mixtures discharged from ships, wastes from cargo operations, and all types of discharges from municipal and waterfront industry activities. Visual quality refers to the aesthetic value of the landscape, the view of port facilities, the nuisance of bright lights used for night operations in a port, and other visual problems. Socio-cultural impacts includes all kinds of influence on the local community and people's life style such as relocation of villages, industrialization, population growth nearby, and the formation of slums.

The environment related compliance is becoming stringent day by day so it is always a better option to have an environment assessment carried out that will assess and regulate the environment issues related to the port and keep a check on the effect of port activities on the environment. The business strategy entails ChPT wanting to be a green and clean port especially in view of it being a city port and the major pollution issues already confronting the port as of For any port or upcoming project, Environment Impact Assessment is the critical area for deciding on to go ahead for implementing new projects or how to better manage environment issues. Chennai port, due to its location within city limits and handling of dusty cargo, has to give specific importance to Environment management.

Environmental Impact Assessment (EIA) is a management tool for ensuring optimal use of natural resources for sustainable development. EIA's for ports and harbours is a mandatory requirement as per the Ministry of Environment and Forests (MoEF) EIA notification (1994) and CRZ notification (1991) because The port and harbour projects have following major adverse impacts:

1. Changes to the flow pattern and resultant coastal erosion / siltation due to the construction of breakwaters and other waterfront structures that obstruct normal flow.
2. Disturbance to the bottom surface and benthic organisms due to dredging and dumping of dredge spoils.
3. Pollution from oil spills during pipeline transfers dismantling operations and oily waste disposal.
4. Risk of oil / hazardous cargo spills from accidents due to collisions, grounding or leakage. Loss of habitats such as mangroves, corals, mudflats etc.

Polluted Indian Coastline

Nearly 250 million people live within 50 km of India's 8,000 km coastline. Eighty-seven cities and towns located in these coastal areas together dump 5.5 billion litres of wastewater into the sea every day. Less than a tenth of this water is treated, making the scale of pollution of our coastal ecosystems daunting.

Distribution of pollution throughout India

Urbanisation	Industrial	Agriculture	Port	Tourism	Rank
Mumbai	Mumbai	Kheda	Mumbai	Chennai	1
Chennai	Thane	Tanjore	Chennai	Mumbai	2
Mahe	Ahmedabad	W. Godavari	Kutch	North Goa	3
24 N. Parganas	Raigad	24 N.Parganas	Visakh	South Goa	4
Ernakulam	Chennai	Krishna	24 N Parganas	Ernakulam	5
Pondicherry	Bharuch	Ernakulam	South Goa	T'puram	6
Kozhikode	Vadodara	Kottayam	Dakshin Kannada	Kozhikode	7
Alleppey	Surat	Chengai Anna	Ernakulam	kanyakumari	8
Daman	Kheda	Alleppey	Cuttack	Ahmedabad	9
Ahmedabad	Valsad	Srikakulam	Jamnagar	Kottayam	10

T'puram	Visakh	Vadodara	East Godavari	Vadodara	11
Trichur	Pondicherry	E.Godavari	Raigad	Pondicherry	12
Quilon	Ratnagiri	Surat	Ratnagiri	Visakh	13
Yanam	24 S Parganas	Pudukkottai	North Goa	Puri	14
Thane	Daman	Mednipur	Sindhudurg	Bubaneswar	15

Source: The Energy and Resources Institute (TERI)

The Table above reveals that Chennai ranks no.2 in releasing pollutants through the port and shipping activities though Mumbai is found to have taken the top rank in port pollution. The table also reveals that Chennai again ranks no.2 in pollution through urbanization. And Chennai is found to be ranking no.1 in pollution through tourism. Therefore the three factors responsible for pollution namely ports, tourism and modernization have been somehow or other related to shipping activities. The Energy and Resources Institute (TERI); Indicators of coastal vulnerability. Higher rank indicates greater stress. The TERI group also identified pressure indicators and their significance to the environment: Persons/sq km (population density) to understand threats from coastal development, sewage, land cover clearance, groundwater depletion, and overexploitation of resources. Density of tourist rooms (tourist infrastructure) to capture the threat to land use and land cover, groundwater depletion, water and beach pollution from recreational activities.

Impact of government's "Make in India" campaign have on air pollution levels

The government's "Make in India" policy could make the pollution crisis even worse. There are no ecological or social criteria about "making" in India. On the contrary, environmental and labor laws are being diluted to attract investors, without social and ecological conditions. Without environmental safeguards, this policy will destroy the soil, uproot farmers, contribute to deforestation, and increased pollution. For example, the Delhi-Mumbai Industrial corridor would destroy 17 percent of India's farmland. The Land Acquisition Ordinance which will allow the government to forcefully appropriate the land of small farmers without their consent, without a social or food security assessment is being challenged by farmers and opposition parties.

The people of India are paying with their health for the deteriorating air quality in our cities. Delhi, the capital, has been identified as the most polluted city in the world by the WHO. In 2011, the fine particulate matter pollution was ten times the maximum limit, largely due to vehicular emissions (67 percent) and coal-based thermal power plants (12 percent). There was a rising trend from 1989 to 1997 as monitored by the Central Pollution Control Board (CPCB). The concentrations of carbon monoxide from vehicular emissions in 1996 showed an increase of 92 percent over the values observed in 1989, consequent upon the increase in vehicular population.

Air pollution levels in Delhi decreased by 16 percent between 2002 and 2007 due to the Supreme Court of India's ruling that all public transport in the capital shift from diesel to compressed natural gas (CNG). However, these gains were undone with increase of 97 percent in vehicles from 2002 to 2012. Air pollution is one aspect of the externality of mindless and uncontrolled urbanization, motorization and industrialization. Other externalities are the pollution of our water, the increase in garbage, and the increase in toxics. India is carrying a very heavy ecological and social burden of non-sustainable development. In a recent book I assessed that, for agriculture alone, the social and ecological externalities of industrial farming are \$1.2 trillion, including the more than quarter million farmers who have committed suicide. India needs to return to its ecological civilization roots.

Conclusion

But the ecological values need to shape policy. India needs to put ecology and democracy above market and commerce. The costs of destroying our resources and the livelihoods of our people are too high. For ecological sustainability and social justice, India needs to evolve an economy with a lower ecological footprint and higher well being and shared prosperity.

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