

TIDINGS

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CELEBRATING



TH
YEARS

AZADI KA AMRIT
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ANNIVERSARY

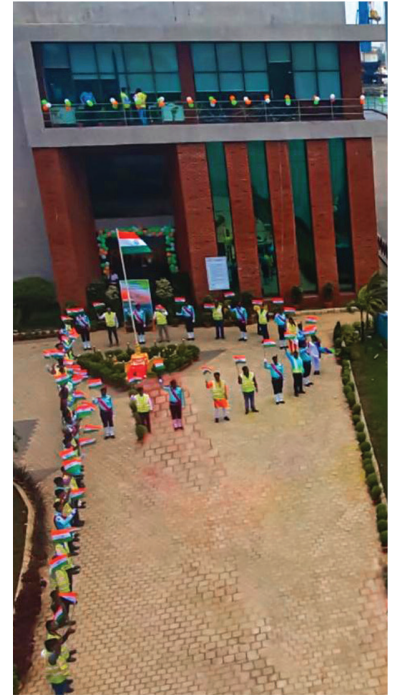
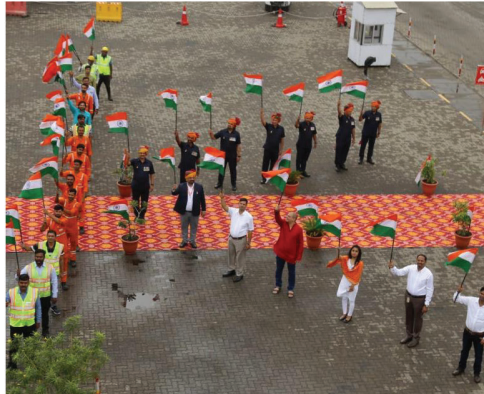


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From the Quarter Deck

Dear Friends and
Colleagues,

At the stroke of midnight on the 15th of August 1947, India woke up to freedom and independence. Thus began India's tryst with destiny. 2022 is the year when India celebrates 75 years of Independence and nationhood. As has been said, that whilst we are an ancient civilisation, we also are a young nation. These 75 years have not only seen India transform, but also the world transition and transform. The major global changes since 1947 and post-World War II have been:

1. The end of the colonial era and therefore the end of colonial rule and colonies.
2. The end of colonialism leading to the creation of independent nations across all parts of the world, especially in Asia and Africa.
3. The beginning of 6 major types of government systems - communism, democracy, socialism, capitalism, autocracies/ dictatorship, and monarchies. All the large economies went into direct or indirect general people's representations.
4. Universal education, healthcare, growth in urbanisation, the shift of people from agrarian societies to industry and service fields for jobs and sustenance.
5. The transformation of European countries into an increasingly cohesive block from EEC to EU.
6. The growth of US into a 'singular superpower' status.
7. The rise and rise of fossil fuels.
8. Transformation led by industry, technology, electronics and computers.

9. The growth and sophistication of transportation and logistics supply chains, modular manufacture, ports, ships, air, road and rail.
10. In India - the Green Revolution in the 1960s and the White Revolution in the 1970s.
11. Bank nationalisation, socialism and centralism in the 1970s.
12. Industrialisation and the end of license raj in the 1980s.
13. Reforms, relaxation and the opening of the Indian economy and globalisation in the 1990s.
14. The growth of IT and the telecom industry the 2000s

Some interesting figures comparing the time of Independence and the present

Category	1947-57	2022
Population	340 Mn	1,400 Mn
Literacy Rate	12%	77.70%
Life expectancy	32 Yrs	69.66 Yrs
GDP	US\$ 650 Bn (1INR = 4.16 USD)	US \$ 3.535 Tr
Wheat	6.46 Mn Tonnes	106.84 Mn Tonnes
Rice	20.58 Mn Tonnes	129.66 Mn Tonnes
Pulses	8.41 Mn Tonnes	27.75 Mn Tonnes
Oil Seeds	5.16 Mn Tonnes	37.15 Mn Tonnes
Milk	17 Mn Tonnes	210 Mn Tonnes
Irrigation Area	22 Mn Hectares	68.4 Mn Hectares
Banks	654	137
Cement	2.15 Mn Tonnes	332 Mn Tonnes
Steel	1.69 Mn Tonnes	120 Mn Tonnes
Refining	0.5 MMTPA	248.9 MMTPA
Electricity	1,362 MW	403,760 MW



Regrettably, we do not have consolidated data on ports. However, it is interesting to note and recall that till the 1st decade of the 21st century most of our ports did not have drafts exceeding 11 meters, and ports such as Kandla, Paradip, Haldia, Tuticorin and JNPT were effectively built after independence, and ports like Mangalore, Vizag and Chennai which existed pre-independence were expanded much faster after independence.

The large minor ports like Mundra, Pipavav, Dahej, Kattupalli, Gangavaram, Gopalpur, Karaikal and Dhamra are ports built in the 21st century. In the 1970s and 1980s, most ships had to lighten their cargo onto barges as ships could not come alongside due to limitations of drafts beam and LOA capability of ports. These limitations were there even with the so-called premier ports then like Mumbai, Chennai and Cochin. Due to the shortage of port capacity, ships waiting for 10 to 30 days to get a berth was very much the norm.

Whilst these figures of then and now are compelling enough to showcase India's growth, it is also important to bear in mind that our progress took place in a democratic system, unlike many other countries where either military, dictatorships or authoritarian systems were in place.



From the Quarter Deck

Today our India is in the top 5 nations with regards to GDP. We just overtook the UK as the 5th largest economy. US, China, Japan, Germany and India is the present order, and it is expected that by 2030 we should be ahead of Germany.

India has made impressive progress in several areas: pharmaceuticals, steel, automobiles, oil refineries, petrochemicals, engineering goods and services, information and technology services, agricultural produce, chemicals, textiles etc.

Along with this, we in the port sector have also kept pace with other successes. Over the last few years under the leadership and direction of our Honorable Prime Minister Shri. Narendra Modi, we have seen a roll-out of path-breaking initiatives such as Sagarmala, Bharatmala, PM Gati Shakti as well as digital infrastructure programs such as the Port Community System and the National Logistics Portal. With all these forward-thinking far-reaching initiatives, India is poised to take its rightful place - alongside the top most nations of the world.

This indeed presents an opportunity for us Indians and Indian companies to seize this opportunity and initiatives, and reach greater heights and success. Needless to mention this will only happen with tons of thoughtful hard work and mindful sustainable sacrifices and risks.

With great power comes greater responsibilities and a leadership position entails responsible actions. Climate change, environment protection, and therefore clean green energy will be one of the pillars for future growth. Green House Gas (GHG)

and CO2 emissions will need to be fully eradicated. With abundant solar energy in most parts of India, harnessing and tapping into this source will be and should be a key thrust area for us. Clean renewable energy will generate green hydrogen which in turn can be converted into various forms of fuels. In the maritime landscape of India's growth, Indian flagged and Indian-owned tonnage will be necessary to ensure not only the transport and logistics industry's growth but also to enhance India's competitiveness in the global trade arena. India will also need to focus on and enable Indian-built ships to ensure its competitiveness as also security in global trade.

Today India can rightly boast of a port sector which compares with the best ports of the world, in terms of capability, capacity, cost and credibility. We have deployed the best technologies as well as processes and systems. The skill levels and skill sets of our people are second to none and it is not unusual to see our colleagues manning and managing several ports and terminals across the world. As was said earlier, we are a young nation though an ancient civilisation. There are indeed many milestones we need to pass through quickly. Our port sector will be handling 40 Mn TEUs from the present, less than 20 Mn TEUs by 2030, if not earlier. Our railway system will handle 15 Mn TEUs from the present 4 Mn TEUs. Our Inland waterway systems will be handling 15 percent of our traffic from the present 1 percent. Indian flagged ships will handle 50 percent of India's sea-borne trade from the present 20 percent. India is poised to enter the global supply chain system which would result in a further 2 to 5 percent additional GDP growth year on year.

Coming to our regular report we have had a reasonable monsoon in most parts of the country which would again ensure a certain amount of stability in terms of inflation and food security. Volumes of trade and traffic have remained stable and there is an underlying trend of an imminent growth spurt. Geopolitics in the world does show troubles with the continuing Russia-Ukraine war, the tension between China and the USA; linked to the fear of a recession, especially in the US and Europe. On the other hand, several expert commentators have recently mentioned that the rise of commodity prices seem to have reached the possible highest point and is now turning downward. The worst seems to be behind us. It can be expected that the next 12 to 18 months we should be able to see complete recovery from these incredibly challenging COVID-19 years.

Expert committees have also affirmed that India is largely unscathed from recession trends, and should continue on a robust growth path.

It seems like a positive path for India @75.

Krishna B. Kotak
Chairman - J M BAXI GROUP

Marine Services

INDIA Over 75 Years – A Look Through The Lens Of Key Industries

India was enslaved for over 200 years by western rulers, before it attained freedom. Since then, the country has come a long way. In 1947, India's Gross Domestic Product (GDP) was ₹2,700 Bn which has increased to US \$ 3.53 Tr in 2021, making it the world's sixth largest economy. Per capita income jumped over 500 times; in 1950 it stood at ₹ 265 and it increased to ₹ 128,829 in 2020-21.

Beginning with 1947, India had nowhere to go but up. The need to press forward, gave birth to a series of revolutions in various important industries, which would go on to prop the nation up for many years to come. As the country focuses on surging ahead, retrospection of the last 75 years will help enrich the blueprint for the next 25 years.

The Green Revolution

In 1964-65 and 1965-66, India experienced two severe consecutive droughts, in a country experiencing growth in population. In fact, population was growing at a much faster rate than food production. This led to severe food shortages and famines. In the late 1960's, the Green Revolution program served as a turning point as the sector now had access to modern agricultural technologies. An increase in food grain production (especially wheat and rice) resulted in large part from the introduction of new, high-yielding varieties. India has seen a six-fold rise in food grain production over the decades. From 50.82 Mn tonnes in 1950-51, food grain production went up to 314.51 Mn

Sectoral Contribution 1950-51 v/s 2021-22		
Sectors	1950-51	2021-22
Public administration, defence & other services	11%	15%
Financing, insurance, real estate & business services	12%	21%
Trade, hotels & restaurant, transport, communication	10%	17%
Construction	3%	8%
Agriculture, forestry & fishing	52%	19%
Mining & quarrying	1%	2%
Manufacturing	11%	15%
Electricity, gas & water supply	0.25%	3%

tonnes in 2021-22. India's agricultural exports touched a new milestone, crossing US \$ 50 Bn in FY22. This is the highest level ever achieved for agriculture exports. The highest ever exports have been achieved for staples like rice (\$ 9.65 Bn), wheat (\$ 2.19 Bn), sugar (\$ 4.6 Bn) and other cereals (\$ 1.08 Bn).

The White Revolution

The White Revolution in India was successful in transforming the country from a milk deficient nation to a world leader in milk production. Prior to this initiative, milk production was just 17 Mn tonnes in 1950-51 compared to 210 Mn tonnes in 2021, which makes India the largest producer of milk. The White Revolution also dubbed as Operation Flood fulfilled not only the objectives of increased production but also increasing the income of farmers and keeping the price of milk affordable for everyone.

The Blue Revolution

The Blue Revolution was like the earlier mentioned revolutions, but specifically aimed at the fishing sector. Similarly, the objective was to enhance the

Trade (in INR Bn)	1947	2022
Foreign trade	7.92	77,196.55
Exports	4.03	31,470.00
Imports	3.89	45,727.80

production of fish, marine products and introduce technological improvements in fishery and aquaculture in India. India's fish production rose from 0.75 Mn tonnes in between 1950-51 to 78.51 Mn tonnes in 2010-11.

Automotive sector

Up until 1930, India did not have any manufacturing facility and cars were imported directly from other countries. From the 1940s, Indian companies like Hindustan Motors and Premier started to manufacture cars of other firms. Mahindra & Mahindra also started to produce utility vehicles. After independence, the Government of India tried to create an automotive component manufacturing industry, in order to supplement the automobile fraternity. From 1960 to 1980, the Indian market was dominated by Hindustan Motors. It was in the 1980s that the two firms, Hindustan Motors and Premier, were challenged by a new entrant, Maruti Udyog Limited.



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Soon after the liberalisation period, car makers that were previously not allowed to invest in the Indian market arrived in the country. Post liberalisation, the alliance between Maruti and Suzuki became the first joint venture between an Indian and foreign company. Slowly and steadily, the economic reforms led to the entry of major foreign companies like Hyundai and Honda, which expanded their base in the country. From 2000 to 2010, almost every major car company expanded its presence in India by establishing manufacturing facilities across the country. India's automotive exports scaled an all-time high by hitting the 5 Mn mark in FY 22 driven by the demand for made-in-India two wheelers in Africa, Latin America and Southeast Asia. Overall, the passenger vehicle exports from India grew 43 percent in FY22 to 570,000 units as against 404,000 units in FY21.

The iron and steel industry

Finished steel production in India has grown from a mere 1.1 Mn tonnes in 1951 to 120.01 Mn tonnes during FY 22. Steel exports from India began only in 1964. During 1976-77 India exported 1 Mn tonnes of pig iron and 1.4 Mn tonnes of steel. Steel further rose to 2.79 Mn tonnes in 1995-96, 3.3 Mn tonnes in 2001-02 and 13.5 Mn tonnes in 2021-22. Till 1950, there were only three iron and steel manufacturing plants in India - Tata Steel, Steel Authority of India and VISWL. Growth in the steel sector in the early decades after independence was mainly due to the public sector. However, the situation changed between 1990-2000 with most of the growth originating from the private sector. The share of the public sector and private sector in the production of steel during 1990-91 was 46 percent and 54 percent respectively, while in 2001-02 the same was 32 percent and 68 percent respectively.

Major Car Exporters - FY 22	
Players	Exports (units)
Maruti Suzuki	235,670
Hyundai	129,260
Kia India	50,864
Volkswagen India	43,033
Renault India	24,117
Honda India	19,323

The fertiliser sector

Fertiliser consumption was less than 1 Mn tonnes before the mid-1960s. With the introduction of high-yielding variety (HYV) seeds, there was acceleration in the growth of fertiliser consumption. It reached 12.73 Mn tonnes in 1991/92 as against 0.78 Mn tonnes in 1965/66, which further rose to 61.4 Mn tonnes in FY2020. Prior to 1960/61, India produced Ammonium Sulphate (AS), urea, Calcium Ammonium Nitrate (CAN), ammonium chloride and Single Superphosphate (SSP). The production of NP complex fertilisers commenced in 1960/61. Currently, India produces around 26 Mn tonnes of urea and imports 9 Mn tonnes to meet domestic demand. Around 6 Mn tonnes of production capacity will be added for conventional urea and the output of nano urea it is estimated will rise to 440 Mn bottles per annum, which will be equivalent to 20 Mn tonnes of conventional urea. That is how India is hoping to end its reliance on imported urea within the next four years by expanding the output of a locally developed version called nano urea.

The power sector

At the time of independence in 1947, the total installed power generation capacity in India was a mere 1,362 MW, as compared to about 400,000 MW today. The Electricity Supply

Act, 1948 envisaged the creation of State Electricity Boards (SEBs). The Central Electricity Authority (CEA) was also constituted for power planning at the national level. The growth of the sector was further powered by The Electricity Act of 2003. The act came into force in June 2003, with an objective to introduce competition, protect consumer interests and provide power to all. By 1972, the installed capacity grew 12 times to 16,660 MW and the per capita consumption also increased 7 times to 120 units. Over the years, the installed capacity increased to 85,795 MW in 1997, and as on March 2022, India had achieved a capacity of 399,497 MW, with approx. 41 percent coming from non-fossil. Per capita consumption has also seen improvement from just 16 units in 1947 to, 1,231 units in 2021. Though India suffered power shortages since independence, in March 2017, India finally became a net exporter of electricity for the very first time.

Space and defence

India's space exploration mission was crystallised with the formation of the Indian Space and Research Organisation (ISRO) in 1969. It was set up with the intent to harness space technology for national development. The launch of the Indian National Satellite System (INSAT) in 1983 was one of the first few successful ISRO missions, that revolutionised the country's television and radio broadcasting, telecommunications and meteorological sectors. One of the few largest domestic communication satellite systems in Asia Pacific, the INSAT has 9 operational satellites.

Developed in the 1990's, the Polar Satellite Launch Vehicle (PSLV) has become the Indian space mission's most reliable workhorse. The PSLV carried out its first mission in 1993, but its first

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successful outing was the next year. For the next 20 years, it launched various satellites for historic missions such as the Chandrayaan and Mangalyaan. PSLV remains a favourite among various organisations as a launch service provider and has launched over 40 satellites for 19 countries.

India joined an exclusive global club when it successfully launched the Mars Orbiter Mission or Mangalyaan in 2014 on a shoestring budget. This was at least ten times lower than a similar project by the US. The US \$ 4.5 Bn project revolved round the red planet, set to collect data on Mars' atmosphere and mineral composition.

According to sources, the Indian space sector currently stands at US \$ 7 Bn, and is expected to grow to US \$ 50 Tr by 2024. India possesses critical capabilities to become a major

player in the global commercial space market especially in the areas of communication (5G, broadband) and earth observation.

Pharmacy of the world

Today the share of made-in-India medicines in the Indian pharma market is now 80 percent from the previous 5 percent in 1969. From a global perspective India is the world's largest manufacturer of generic drugs and is known as the pharmacy of the world. The Indian pharma industry contributes more than 20 percent by volume to the global generics market, and fulfils 62 percent of the global demand for vaccines. India's domestic pharmaceutical market size was recorded at US \$ 42 Bn in 2021 and is projected to expand to US \$ 120 Bn by 2030. The COVID-19 period helped further spotlight the Indian pharma

industry as an engine for economic growth.

Today, while India makes up a small percent of the world's GDP with just under 3.8 percent, it is still part of the top five economies with a US \$ 3.5 Tr economy. However, the country has a long way to go before it can accomplish the status of a developed nation. This can be achieved through some key initiatives that are already in the works; boosting domestic manufacturing and cutting import dependence, technological advancement through various digital initiatives and the strengthening of micro, small and medium enterprises. The runway for growth is long, but a look through the rear-view mirror indicates that the country has what it takes to be a force among some of the world's largest economies.



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Fueling The Country - A Look At INDIA's March To Oil And Gas Sovereignty

An accidental but significant seepage of oil during the construction of the Assam-Dibrugarh railway line led to colonial India's first ever commercial oil discovery in the country's eastern state of Assam in 1890. However, India's oil output in British-controlled India was mostly exploited by British companies with international alliances during the colonial period. In fact at one stage the entire oil output from India was geared primarily towards supporting British troops in the first and second world wars and supporting British industrial complexes in England.

After India attained freedom from the British-Raj in 1947 - a transformative change took place in the oil and gas scenario in the country. Post India's independence, the new Government of India took total control of the exploration, processing and distribution of crude oil and associated gas. Such a move left very little scope for the private sector to team up with the Indian Government. Though some vestiges of colonial partnerships still remained in the form of Oil India which was a joint venture between Burmah Oil Company (now British Petroleum) and the Government of India.

1950's

A watershed period in 1956 saw the foundation of the industrial policy of India. It placed the oil and gas industry as a Schedule 'A' industry, which was accorded to those sectors which were to be an exclusive responsibility of the state.



Accordingly in October 1959, the state owned Oil and Natural Gas Commission (ONGC) was formed and vested with the overriding authority to explore, develop and produce oil and associated gas in India. The necessary technical expertise and know-how was allowed to be obtained from the then USSR, Romania, United Kingdom, West Germany and the USA.

1950-1990's

From 1956 until 1991 exclusive governmental control was the norm. During this period however, a number of notable milestones were achieved such as when ONGC in 1960 struck oil and associated gas, at the Ankleshwar field in Gujarat; and ONGC's magnum opus in 1974 when oil was discovered in the Bombay Offshore Basin (the southern part of the famous Bombay High field).

It then became apparent, that much of India's biggest oil and gas fields

would primarily be offshore based, and no longer onshore as had been the norm. With this, the J M Baxi group foresaw its ability to partner in offshore projects, and in 1976 set up Arya Offshore Services to provide specialised and customised services to the massive offshore oil and gas market that was opening up.

In 1978 India's first ever underwater pipeline project was commissioned by ONGC to transport crude oil from the Bombay High offshore installations to Uran in Maharashtra. The turn-key contract was awarded to Brown and Root, USA who turned to the trusted J M Baxi group to hand-hold and support its first ever project in India, of constructing and installing pipelines over a nautical distance of 176 kms.

J M Baxi and Arya Offshore played a pioneering and stellar role in establishing and providing on an exclusive basis, India's first-ever shore cum supply base at the Ferry Wharf



Marine Services

complex in Mumbai in 1978 and attended to comprehensive logistics, crewing, ship-management and agency services to more than 180 offshore vessels and 3 giant pipe-laying barges over a period of three years.

In 1988, Gas Authority of India Ltd. (GAIL) commenced work on the longest ever onshore pipeline spanning 374 kms over three Indian states by connecting the transportation of gas from Hazira in Gujarat to Jagdishpur in Uttar Pradesh. This mammoth and complex project was awarded to the French Spiecapag led consortium. The company joined hands with J M Baxi group and Arya Offshore to provide exclusive support to the entire logistics process – agency, import-export, route surveys, heavy lift cargoes, manpower resources etc. and support services.

1990's

In 1991, the Government of India launched its new economic policy, which was based on the liberalisation, privatisation and globalisation model. This resulted in the deregulation and de-licensing of core sectors, including the oil and gas sector.

Meanwhile the Panna-Mukta-Tapti offshore oil fields were discovered by ONGC, who initially operated the fields. Following the privatisation policy a Reliance and Enron consortium gained a 25 year lease on the oil field in February 1994. The lease was awarded under a Production Sharing Contract (PSC) arrangement. The Government of India would receive a variable share of profit depending on the investment multiple. In December 1994 a joint venture between ONGC (40 percent), Enron (30 percent) and Reliance (30 percent) took control of the field.

In this first-of-its-kind venture in India, J M Baxi and Arya Offshore Services played a pioneering role once again in the Bhavnagar shore cum supply base

in Gujarat for the ONGC-Reliance-Enron consortium, along with a customised and comprehensive range of shore cum support services.

The 21st century

At the turn of the new millennium it was evident that the reforms initiated earlier in the general polity of the national oil and gas framework now needed to be consolidated. The first attempt at consolidation resulted in the launch of the second round of the New Exploration Licensing Policy (NELP-1) in which 25 exploration blocks were offered on a PSC basis. This was followed in quick succession, by the NELP-2 for 27 blocks for exploration of oil and natural gas. Of these, 9 blocks were deepwater, 7 shallow offshore and 11 on land. PSCs were duly signed thereafter for 23 exploration blocks (9 deepwater, 6 shallow offshore and 8 on land). Significantly Indian Oil Corporation Limited (IOCL) emerged as one of the new government players when 8 exploration blocks and 2 Coal Bed Methane (CBM) blocks were awarded to an IOCL-led consortium. Reliance Industries Limited (RIL), already the largest Indian private sector behemoth, joined the bandwagon of global deepwater oil and gas operators, after it started producing sweet crude of 420 API in its KG-D6 block that lies in the Krishna-Godavari basin of the Bay of Bengal.

It was around this time that the pan India capabilities of the J M Baxi group and Arya Offshore became apparent, when the gamut of marine logistics and base services were deployed off the east coast of India to serve RIL's development of the KG-D6 block. In this context, Arya Offshore provided critical agency and logistics support to companies like Allseas, Technip, Mcdermott, Gazprom and a host of others who were actively engaged in the exploration and development, off India's east coast.

With the commissioning of the new refinery in its Special Economic Zone (SEZ), RIL's Jamnagar refinery became the petroleum hub of the world. With 1.24 Mn barrels per day of nominal crude processing capacity, it is the single largest refining complex in the world. Meanwhile Gas Authority of India (GAIL) won the rights to lay a 1550 km, US \$ 1 Bn natural gas pipeline from Surat in Gujarat to Paradip in Orissa, connecting the country's west and east coasts.

Along with RIL, the Vedanta controlled Cairn India became one of the largest independent oil and gas exploration and production companies in India with a market capitalisation of US\$ 10 Bn. Smaller Indian companies too were invited to participate in India's quest for oil and gas with the announcement of Discovered Small Field Policy which was laid open to all companies. The Ministry of Petroleum announced India's Hydrocarbon Vision 2025 policy, in which 100 percent of the Indian sedimentary area is to be appraised. On land area covers 1.63 Mn Sq Km (48.5 percent) and offshore area covers 1.73 Mn Sq. Km. This represents a massive market for the Indian and international oil and gas players.

Finally the experience of the war in Ukraine and subsequent embargoes have brought home to the Government of India the absolute necessity to become rapidly self reliant in oil and gas, and to successfully implement the 'Make in India' policy. In this context, the transfer of technology and joint ventures with suitable international oil and gas players has become the need of the hour.

From the socialistic days of the nineties, to the rapidly changing dynamics of the present age, the Indian oil and gas industry continues to evolve for the long road that lays ahead.



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Seafarers – Stars Of The Sea, That Realign With The Changing Tide

"We must free ourselves of the hope that the sea will ever rest. We must learn to sail in high winds."
– Aristotle Onassis, shipping tycoon.

Those who make this happen are seafarers. With the advent of shipping, seafarers evolved exploring the vast oceans. They discovered land and that was the beginning of trade. Seafarers being an integral part of shipping, have grown with the change brought about in the industry over the years. Thousands of seafarers are either on-board ships, or enjoying a well-deserved break awaiting and readying for their next contractual assignment. The continuity in employment ensures the smooth running of ships and subsequently global trade; involving the transportation of cargoes such as food, medicines, electronics, mineral, fuel and more. The call of the oceans has become a part of life for seafarers. It is now considered a meaningful, important career that provides a prosperous future and a firm foundation for professional growth. It offers endless opportunities and a beginning to a lifelong maritime journey.

The history of the Indian merchant marine goes beyond our independence. The Britishers shifted powers to the East India Company to have a better control over Indian ships and ports. This allowed the British to utilise our powerful resources, to push the industrialisation of the west at the cost of the east, putting the Indian merchant marine on the back foot. The Indian merchant fleet was composed of both, Indian and British owned ships that were operated by India. Ships of

both owners flew the red ensign of the British merchant navy. It was the exclusive prerogative of British ships to carry out trade with foreign countries from Indian shores. Even coastal trade was not free of interference from the British. Conditions under which the Indian Officers chose to continue to be employed, were more out of lack of options rather than out of choice. Then prevailing conditions were those of open discrimination and exploitation as far as wage conditions for Indian seafarers were concerned. A resolution was passed in 1922 which resulted in the appointment of the Indian Mercantile Marine Committee. This committee recommended the establishment of a training ship in Bombay for the purpose of training Indians in the marine profession, and the committee further recommended to engage the troopship 'Dufferin', be converted for this purpose. The Indian Mercantile Marine Training Ship, Dufferin thus came into being in November 1927. The first batch of seven out of thirty selected candidates joined the ship in November 1927. From 1927 till 1934, the Dufferin trained only executive cadets. In 1935, the first batch of engineer cadets joined the ship and in the year 1947, when India became an independent nation, the Government of India took initiative of meeting the increasing demands for trained maritime personnel.

It has never been easy to adopt change. Like many industries, willingness to embrace new technology is crucial and shipping is no different. Shipping over the years have seen several changes which came into force due to some major incidents and accidents on-board ships, therefore making regulations mandatory for strict adherence. Seafarers as part of such changes adapted themselves to such stringent

requirements and kept themselves updated with the latest regulations and amendments.

Globally there are over 50,000 merchant ships trading internationally, manned by over a million seafarers of every nationality. The operation of merchant ships generates an estimated annual income of over half a trillion US dollars in freight rates.

Seafarers serving on merchant ships is estimated to be slightly over 1.6 Mn, of which 0.77 Mn are officers and 0.87 Mn are ratings. The Republic of China, Philippines, Indonesia, The Russian Federation and Ukraine are estimated to be the five largest supply countries for all seafarers (officers and ratings). The Philippines is the biggest supplier of ratings, followed by China, Indonesia, the Russian Federation and Ukraine. Meanwhile China is the biggest supplier of officers, followed by the Philippines, India, Indonesia and the Russian Federation. At least 240,000 Indians work as commercial seafarers, forming 9.3 percent of the global seafarers workforce.

Indian Seafarers have been subjected to various encumbrances in the past owing to the global financial crisis. This led to a decline in trade and subsequently companies went bankrupt, putting them in an uncomfortable position where they were unable to pay the seafarers wages. In few of the cases seafarers were literally abandoned by ship owners who were not willing to even supply fuel and offer provisions to their ships. This left, seafarers at the mercy of some ports and welfare organisations who came to their eventual rescue.

The Directorate General of Shipping (DGS) in cognisance has taken several



Marine Services

measures to ensure the safety and security of Indian seafarers is well taken care of whilst at sea. The recruitment of seafarers is now being scrutinised, ensuring their documentation is in order. Ship owners too are evaluated to ensure they are suitably covered to protect their employees from being stranded at a port, and have adequate provisions to safely repatriate them to their respective destinations.

During the pandemic, when the world was under complete lockdown, thousands of Indian seafarers were stuck on-board cruise and cargo vessels with the Indian airspace closed for international and domestic flights. Ship management companies operating in India were faced with huge challenges as they were unable to carry out any crew changes. Crews on-board ships were getting overly fatigued and mentally exhausted with extended stays. As for the crew ashore, they were finding it difficult to sustain without employment. The DGS, taking this into consideration, came up with standard operating procedures to disembark crew while transiting the Indian coast. J M Baxi as a front runner in the Maritime Industry, joined hands with ship management companies, facilitating several crew changes at all Indian ports. This was thanks to J M Baxi's presence at all locations, that helped get things moving in close coordination with the health and immigration departments at each port. This made a huge impact globally, and the Neptune Declaration on Seafarer Wellbeing and Crew Change was introduced, which aimed to promote and protect the welfare of seafarers. It was launched in response to the crew change crisis, which resulted in around 400,000 seafarers stranded on ships because of coronavirus-related travel bans.

India is on a growth trajectory when it comes to the shipping and maritime industry. The government is providing a boost in the form of subsidies and capital investment for the shipping sector. Most of our major ports

are notably termed as the busiest in the world. The future is bright because of the flexible nature and the focused efforts that are taken for the upliftment of the maritime industry. Development of inland waterways is another impressive milestone to enhance trade and simultaneously reduce logistics costs, thus providing a competitive pricing advantage in the global marketplace.

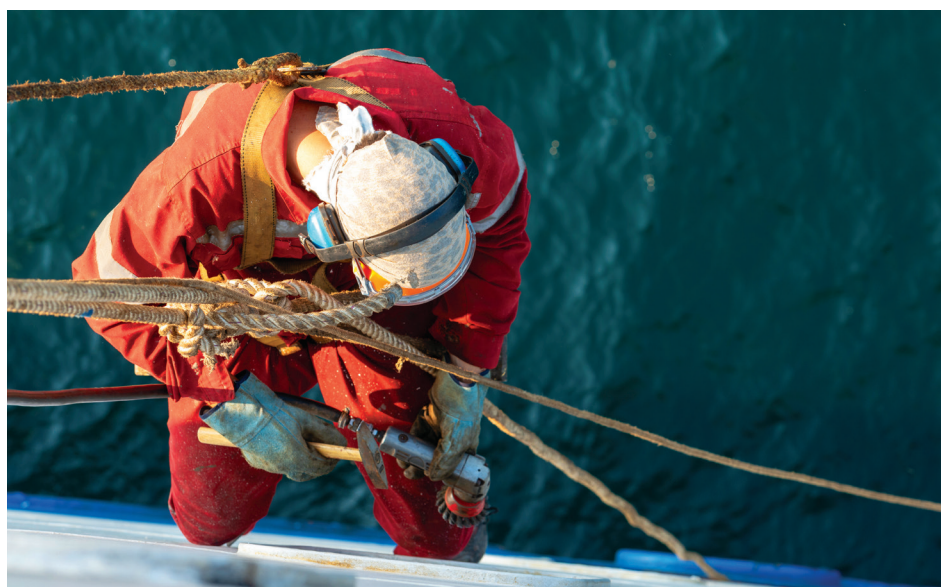
The merchant navy has always been a male dominated industry but over the years the mindset has seen a drastic change. Shipping companies have realised the need to have equal representation of women at shore as well as sea. Though the International Maritime Organisation (IMO) gender programme was initiated in 1988, it is the recent years that have seen rigorous talk and discussions at the global level, about gender disparity in this field.

In India, the DGS specifically talks about the strategies required to attract and increase the participation of women seafarers in maritime trade. The first is encouraging women to join maritime training institutes and providing adequate job training. The Maritime Training Trust (MTT) under DGS provides yearly scholarships to Indian women seafarers to provide financial aid for the same. The DGS

also recommends supporting women seafarers during breaks in their career due to maternity by providing them with alternate career options like ship managers, lawyers or recruiters. J M Baxi group as one of the pioneers in the Indian maritime industry has been encouraging women to join its workforce and recruiting women seafarers to stand shoulder to shoulder with their male counterparts.

The international shipping industry is responsible for the carriage of around 90 percent of world trade and it is the lifeline of the global economy. Without shipping, intercontinental trade, the bulk transport of raw materials, and the import/export of affordable food and manufactured goods would simply not be possible. Seaborne trade continues to expand, with the growing efficiency of shipping as a mode of transport and increased economic liberalisation. The prospects for the industry's growth continues to be strong and this would not have been possible without the warriors of the sea - the seafarers, who battle the high seas with their courage and passion to move on, notwithstanding the hardships they encounter.

Take charge of your life, the tides do not command the ship, the sailor does." – Ogwo David Emenike, Nigerian writer and poet.



In Conversation

With Dr. (Mrs) SUJATA A. NAIK - TOLANI

Q. As India celebrates 75 glorious years of its Independence, can you please describe how the journey for Indian ship owners has been since independence?

Indian shipping fleet have contributed to the Indian economy even before India attaining independence. Thus, it has been a partner to trade and supported the commerce of the Indian state in its good and bad times.

However, the growth of the Indian fleet has been stymied for reasons which relate to policy and not for reason of ability. This has led to an outflow to foreign ships in excess of US \$ 50 Bn as freight, annually. There is need for the policy makers of the Gol to understand this challenge and swing into action, by taking policy decisions which will make Indian ships competitive.

The very existence of the Indian shipping industry secures the carriage and supply chains for strategic and food cargoes. The presence of Indian vessels ensure competitive freight rates to the Indian trade. This keeps Indian exports competitive and imports cheap. The absence of an Indian flag container fleet is an example of how the EXIM traders of India had to suffer by requiring to pay stratospheric freight rates.

Q. India presently ranks 17th amongst the world's merchant fleet owning countries. What are your thoughts on how to improve our ranking, further making India a stronger maritime nation?

In general, any goods or services, can only be sold in India through a local establishment. Further, import of goods and services are discouraged and made



A multifaceted personality Dr. (Mrs) Sujata A. Naik - Tolani, wears many hats. A Pulmonary Critical Care Specialist, Dr. Sujata A. Naik has served as Director of the medical Intensive Care Unit at Brooklyn Hospital Centre in USA. She is the Chairperson of Tolani Shipping Company Limited. She is also the Chairperson, Tolani Maritime Institute. She is presently the President of Indian National Shipowners' Association (INSA).

less competitive through imposition of duties. However, in India shipping happens to be the sole exception to this rule. Today, it is cheaper to import shipping services into India than to provide them through a local company. This is the key issue which impacts the growth and investments into the Indian flag fleet.

Two things need to be done in order to attract investments in, and for the growth of Indian flag shipping:

- Make Indian shipping competitive by removing the duties and taxes that impair the competitiveness of Indian ships
- Link access to or 'right to cargo' to flagging in India, be it coastal or

EXIM cargo. If a foreign flag ship wants to carry Indian cargoes then they must be asked to convert to Indian flag. This will put Indian and foreign flag ships on an even keel.

Q. Indian trade depends a lot on foreign flag vessels whereas Indian flag's share of carriage is down to below 8 percent. What support would Indian shipowners need to improve their share of carriage of Indian trade.

In FY21, more than 90 percent of Indian EXIM cargoes and 40 percent of coastal cargoes were carried by foreign ships. It is estimated that this led to a flight of more than US \$ 50 Bn in freight. This net annual forex outgo of India needs to be reversed.

The national fleet is large enough to carry a fair share of India's critical cargoes. However, at least 50 percent of India's critical cargoes should be on Indian flag vessels. To achieve this, we foremost need a National Shipping Policy which would:

- Make Indian shipping competitive vis-à-vis other domestic modes of transportation like roads and railways
- Make Indian shipping competitive vis-à-vis foreign shipping companies operating on the Indian coast
- Make Indian shipping companies competitive and provide them with a level playing field vis-à-vis other foreign shipping companies on international trades

Q. The Right of First Refusal for Indian flags was a welcome move by the government. Similarly the cabotage



In Conversation

rule has been favouring growth of Indian tonnage. In your opinion, how effective have these measures been in the growth of our shipping since independence?

I need to debunk once and for all that India practices 'cabotage' in shipping services. India does not have any cabotage rules which favour the Indian flag. Cabotage exists in the air, rail and road industry in India but not in shipping services. It is there for all to see. Only a local company can operate a domestic air service or a rail service or transport by road, but not shipping.

What the Indian flag enjoys is the 'Right Of First Refusal' (ROFR) given to Indian ships. Finally, that only means that in the freight bidding process if an Indian company is not the lowest bidder, it would have the option to be awarded the contract for transportation, provided that it matches the lowest rate as offered by the foreign shipping company.

What the ROFR mechanism completely overlooks is the fact that today foreign and Indian ships compete for the same Indian cargoes both coastal and EXIM despite the higher operating costs of Indian shipping companies – as a result of the duties and taxes paid by Indian shipping companies and other social contributions to the Indian economy, a cost which foreign shipping lines operating in India do not have to bear. The cost of funds for an Indian company is also higher than those of a foreign shipping company. Clearly under these circumstances, the ROFR has limited utility since it is nearly impossible for Indian companies to match the lower operating costs of foreign flag ships.

This was validated in 2020, as Indian oil PSUs opposed the government's proposal to ask foreign ships to flag in India and then carry Indian oil cargoes

saying that this would increase the cost of a foreign ship by more than US \$ 3,000 per day.

Q. India implemented the tonnage tax regime in line with major maritime nations and this provided a major boost to Indian ship owning in the short term. However, few Indian shipowners still prefer to operate out of the tonnage tax regime. Can you throw some light on the same.

While India has a tonnage tax regime, the effective rate of taxation in India even under tonnage tax is far higher than that levied in other maritime nations. In addition, India has imposed the obligation of training fresh cadets in Indian shipping companies.

The shipping freight business is volatile, seasonal and cyclical, and therefore the world over, the profit on sale of ships is considered as a core business income and taxed at tonnage tax rates. However, India Minimum Alternative Tax (MAT) is imposed on the sale of a ship by an Indian shipping company, levied at a corporate tax rate. Further, an Indian shipping company has to transfer 20 percent of its book profit to the Tonnage Tax Reserve Account every year. This amount has to be utilised to buy new assets within eight years. When the money invested in the Tonnage Tax Reserve Account earns interest, that too is taxed at the corporate tax rate.

Depending on the business model followed, a company may choose to opt for the tonnage scheme, or not. However, as long as the primary issue of competitive impairment of Indian flag vessels continues to hurt investment in Indian flag, the usefulness of a Tonnage Tax scheme would naturally be limited.

Q. India is one of the major providers of seafarers to international shipping. There have been many good moves by

Indian shipping companies in setting up training for young cadets and inviting talent to join the merchant navy. How has this evolved over the years and what would be the learnings other industries can gain from Indian shipping.

Even before it became a trend for industries to embark on skill development and training, the Indian shipping industry has been at the forefront of training not just seafarers, but also those ashore. It is the philosophy of INSA members to invest in the next generation. This has been done through the creation of the maritime training institute by INSA members.

Though there has been some uncontrolled and indiscriminate growth in maritime training in the last 10 years, the training schools that have been set up by marquee INSA shipping companies have historically churned out well trained, in-demand cadets. This, I believe has been the distinguishing factor that has led to a demand for Indian seafarers in all the big maritime flags across the world.

Q. There has been lots of development on marine fuels. What are your views on India becoming a major bunkering hub in the international market.

India definitely holds the potential to be a major bunkering centre for ships given the large number of ships which call Indian ports alone. However, India has not been at the forefront of policies which encouraged the growth of bunkering in India. Further, we have not been a leader in the research on marine fuels. Presently, the jury is still not out in respect of the final choice of green fuel.



Technologies

Technology Led Opportunities - INDIA And J M BAXI's Footprint

FY 2022 has been a spectacular year for India's technology industry. It recorded a 15.5 percent growth - the highest ever, to reach US \$227 Bn in revenue. A combination of digital and innovation was the industry's winning formula. Platformisation and software-as-a-service (SaaS) were instrumental in accelerating tech adoption. It was also the year of start-ups, when tech start-ups began leapfrogging into scale-up mode. The industry doubled down on operational excellence of the O+O model (offline and online).

Today the share of digital to total revenue stands at 30-32 percent with 1 in 3 employees being digitally skilled, establishing India's position as the 'global digital talent nation'.

These factors have pushed India's share in the global sourcing market to 59 percent - a testament to India's new tech value proposition.



workforce, a highest-ever net addition of 445K. The industry's 'people first employee-centric' approach saw tech firms quickly adapt to hybrid work models and scale up the industry's digital capacity/capability building programs.

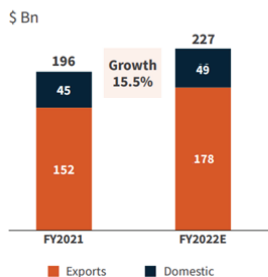
However, India's relationship with technology began to deepen some 30 years ago. This was post the introduction the economic policy in

J M Baxi and its tryst with tech

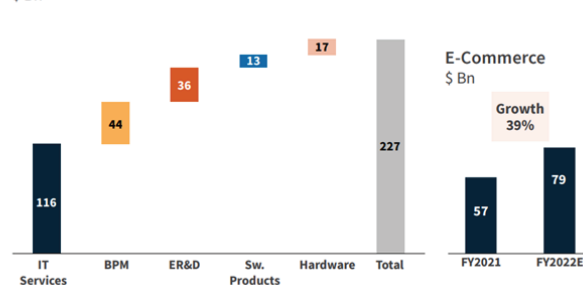
J M Baxi's rendezvous with technology began when the company entered the wireless telecom market by establishing Arya Communications & Electronics Services (Aryacom) in 1988. It was a visionary move as it foresaw the impending telecommunications revolution that would take place a few years from then.

One of Aryacom's major early initiatives was the association with Motorola, USA in which operating licenses were secured for paging services and Public Mobile Radio Trunking Services (PMRTS) in 10 Indian cities. The company set up its own telecom services division focused on providing pre-sale engineering services and other post-sale services for various mobile telecom operators such as Hutchison Max (Vodafone), BPL (Loop) and others in India and abroad. Aryacom also partnered all major OEM's engaged in mobile networks and infra equipment suppliers, in the implementation of cellular networks all over India based on radio frequencies and fibre optics.

India's Technology Market Set to Cross \$227 Bn, a 15.5% Y-O-Y Growth



FY2022E- Segmented Breakup



*Credits - Nasscom 2022 annual strategic review - resilience to resurgence

Another landmark that the industry achieved was to cross 5 Mn in direct

the 1990's, based on liberalisation, privatisation and globalisation.

Technologies

In the domain of two-way radios (walkie talkies) Aryacom participated and won most of the tenders issued by various government departments as well as non-government customers.

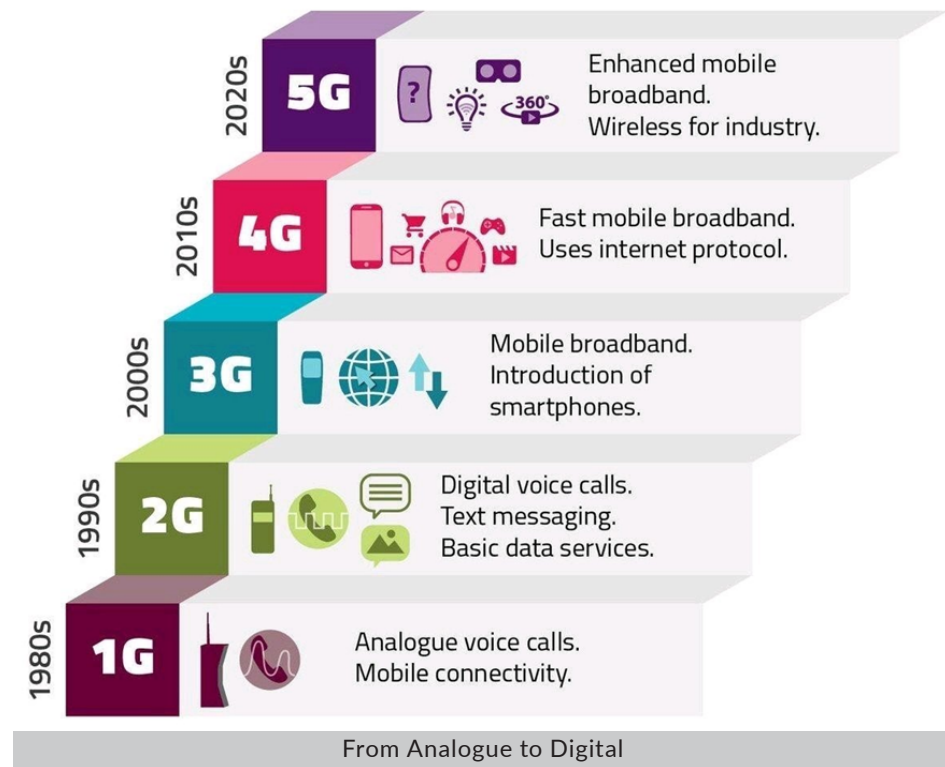
Thereon, Aryacom entered into encryption solutions in association with Transcrypt for all two-way radios, system integration solutions for telemetry, marine radios, and in association with Sargent & Greenleaf for highly secure locks for ATMs and vaults. As of today, Aryacom maintains the pole position in the ATM Segment having an installation base of more than 215,000 high security safe locks which comprises a close to 90 percent share of ATM's in the country.

From 2010 to 2020, Aryacom began providing wireless broadband solutions, enabling connectivity for offshore installations.

Pivoting once again, during the pandemic Aryacom diversified into the domain of Body Worn Cameras (BWC), Alcohol Breath Analysers (ABA), Unmanned Vehicles (UAV) and drones solutions and services, and received and implemented orders from police authorities, ports and railways. The company also signed exclusive agreements with Barrett Communications, Australia to serve leading central paramilitary forces, intelligence agency and research agencies in the country.

Foraying into the water and waste water treatment industry

In 2014 J M Baxi ventured into water and waste water treatment by setting up Arya Water Technologies. The reason for its existence is to 1. provide quality wastewater treatment facilities as per established norms 2. provide efficient cost effective and reliable water and wastewater treatment systems in a manner that respects the



environment and 3. protect public health and enhance the environment by treating wastewater and recycling valuable resources wherever possible.

Arya Water Technologies is an ISO-9001:2015 company with 100 plus installations of water and wastewater treatment plants. The focus is on package plants, standard plants, small and medium projects with emphasis on sewage treatment plants in rural and urban areas.

The company specialises in complex, cost-effective and customised end-to-end water and wastewater treatment solutions based on technologies ranging from conventional to next generation for various applications across sectors. This is done by integrating process technologies, design, engineering and project management capabilities with single source responsibility. It's customers are the real estate, hospital and hospitality industry, cement industry, port and related infrastructure, biomass industry etc.

Platforms that promote ease of doing business across the maritime world

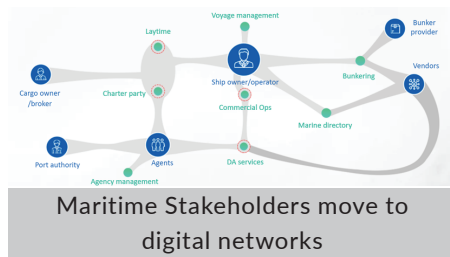
A key stakeholder in the maritime industry is the reclusive ship-owner, who invests in this floating asset that carries 90 percent of world trade in volume, and 70 percent by value on its tenuous everchanging routes. The myriad geopolitical, weather and economical shifts in world trade were navigated by these shipowners with minimal visibility and control before digitalisation was introduced to the maritime industry.

Within the maritime ecosystem, ports and port agents play a vital role in managing overall port costs and duration by efficiently planning various services like cargo handling, bunkering, ship maintenance, crewing and victualling etc.

Even with multiple digital platforms available in the market today, managing landside time and cost is no easy task as there are still some critical pain



Technologies



points which existing technologies are unable to address. The issues are myriad:

1. Lack of end-to-end visibility and transparency on port tariff structure
2. Uncertainty about transit timelines of various currencies
3. Lack of one integrated solution which can empower end users to control/manage their tasks pretty much from one platform like a one-stop-shop
4. Lack of tools providing cutting edge analytics, putting data to real practical use thereby enhancing business decisions
5. No control over Disbursement Accounting (DA) timelines especially in certain parts of the world
6. Compliance issues

Due to such complexities, port cost management is a surprisingly time-consuming and risk ridden process. This is where J M Baxi launched Diabos Global, in the UAE. The company plays a crucial role by providing customised IT enabled services specifically built for the maritime space. The platform delivers superior agent and vendor management, and frees shipowners and operators to focus on driving their business forward. Apart from optimising operational costs, Diabos

solutions keep the ship owner / operator in control via an accurate, transparent, sustainable and cost-efficient cloud solution without making the experience of the end user too complex. All this while simultaneously managing mutual trust, concerning data-sharing protocols and protecting respective competitiveness.

Diabos has since 2008 been one of the very few global entities in this space helping shipowners with their global voyages 24/7 and 365 days a year with over 8000 agents serving over 800 ports around the world.

Diabos clients have spent more than a decade with the company, and grown their fleet and their topline more than 500 percent with continuous improvement in the vessel per operator employee ratios.

Enabling smart ports and seamless landside logistics ecosystems

With vast experience across the maritime world, J M Baxi understood some of the seemingly small, but significant pain points being faced by the industry. One of them was the lack of a platform that enables all parties involved to talk to one another and in the same language.

The company Portall Infosystems (Portall) was launched in 2015 to expressly provide information technology solutions to the maritime trade sector. The aim is to build transparent, cost effective and efficient landside solutions that contribute to the overall ease of doing business for all the stakeholders in the maritime and logistics space. Portall since then has grown to become a leading provider of information technology solutions and services to the maritime sector and associated trade. It specialises

in conceptualising and implementing community platform systems that connect stakeholders and enable collaboration and coordination between various stakeholders.

Besides servicing the J M Baxi group's internal requirements, Portall also is presently working on two projects of national importance namely, the Port Community System (PCS 1x) and the National Logistics Portal – Marine (NLPM) for the Ministry of Ports, Shipping and Waterways (MoPSW), Government of India. The PCS project is presently running on a steady operations mode, while the NLPM is scheduled to be delivered by September 2022.

The PCS implemented by Portall for the Government of India has:

- Helped India improve its Ease of Doing Business (EoDB) rankings
- Won the Digital India Award 2020 in Exemplary Product Category from the President of India.
- Been featured in global case studies
- Catapulted Portal into working on the prestigious national logistic trade platform

Post COVID-19 J M Baxi's technology vertical has further stepped up its connections with several global players to contribute actively within the spheres of maritime and logistics, encompassing environmental responsibility, care for societies, governance, productivity enhancement and ethical business practices - for holistic growth and sustainability.

Ports & Logistics

Strong Mobility For A Strong Nation - A Nation Runs On Its Wheels

The state of a country, its strengths and capacities can in a large measure be judged from the capabilities of its indigenous logistics services and accomplishments. Huge enterprises, giant machineries and equipment that churn out goods and commodities in the service of the masses, are recognised as temples of modern society, bringing well-paying employment and prosperity to the regions at large. Heavy lift and transportation help forge these connections.

Heavy lift requires multidisciplinary capabilities. Standard off the shelf services or solutions don't suffice; each lift and each movement needs to be planned as a project. The cost of errors is prohibitive, in terms of cash outflows and downstream delays

in multi-million dollar set ups. Safety of the cargo, equipment, personnel, the environment and other structures is of a paramount importance. Thus, in executing heavy lifts and heavy transportation, one can see in full view a display of the strengths and the sharpness of execution of the performing party. And it cannot be emphasised enough that all of this must be undertaken and completed in the most economical manner and in full compliance of applicable laws, rules and regulations, of which there are plenty. It goes without saying that in heavy lifts and transportation, even a small error or lapse, is magnified, and magnified manifold.

As the Indian industry has grown from a depressed scenario at the time of independence, to now a proud part of the fifth largest economy in the

world, the legs and arms that help set it all up have kept pace. From modest beginnings of the industry working with hand me downs - auctioned military trailers to low bed trailers, articulated trailers and now state-of-the-art hydraulic axles and SPMTs, the Indian heavy lift sector has remained steady, committed and invested in the trade. While the sector generally began with packages of about 50 MTs needed for the first fledglings of industry, now often single pieces of say 2300 MTs, a length of 125 metres and a height of 15 metres of an industrial behemoth are moved safely and securely across the country using available surface modes. Thus, the Indian heavy lift entities have remained in step with the industry all the way, in meeting the requirements and challenges of creating infrastructure and industrial



Wash Tower: 1155 MTs, 96.00 M (L) X 7.80 M (W) X 8.60 M (H) across multiple modes and vessels. This delicate giant made its way from a jetty on the west coast of India over axles, barges, heavy lift vessels and back onto axles onwards to a refinery on the east.



Ports & Logistics

enterprises of scale that take the country towards development and prosperity. A good part of foreign consultancies and support in the new beginnings post independence were towards heavy lifts, erections and mega transportations. Now Indian companies are often at the forefront of such contracts and execute the lifting and erection of giants like offshore decks and jackets that can weigh up to 5000 MTs a piece, all by themselves, on the years of accretion of knowledge, capital assets and experience.

In the 75 mostly glorious and productive years since independence, the heavy lifts services and Indian industry have each contributed to the other. The multi-modal transportation of huge, weighty and yet delicate ODCs from coast to coast within India, and from and to India from abroad is a task that is routinely undertaken. Not quite behind the scenes but away from the limelight, the Indian heavy lift and heavy transportation sector carries out seemingly extraordinary feats in a manner that appears routine. This is thanks to a very well trained

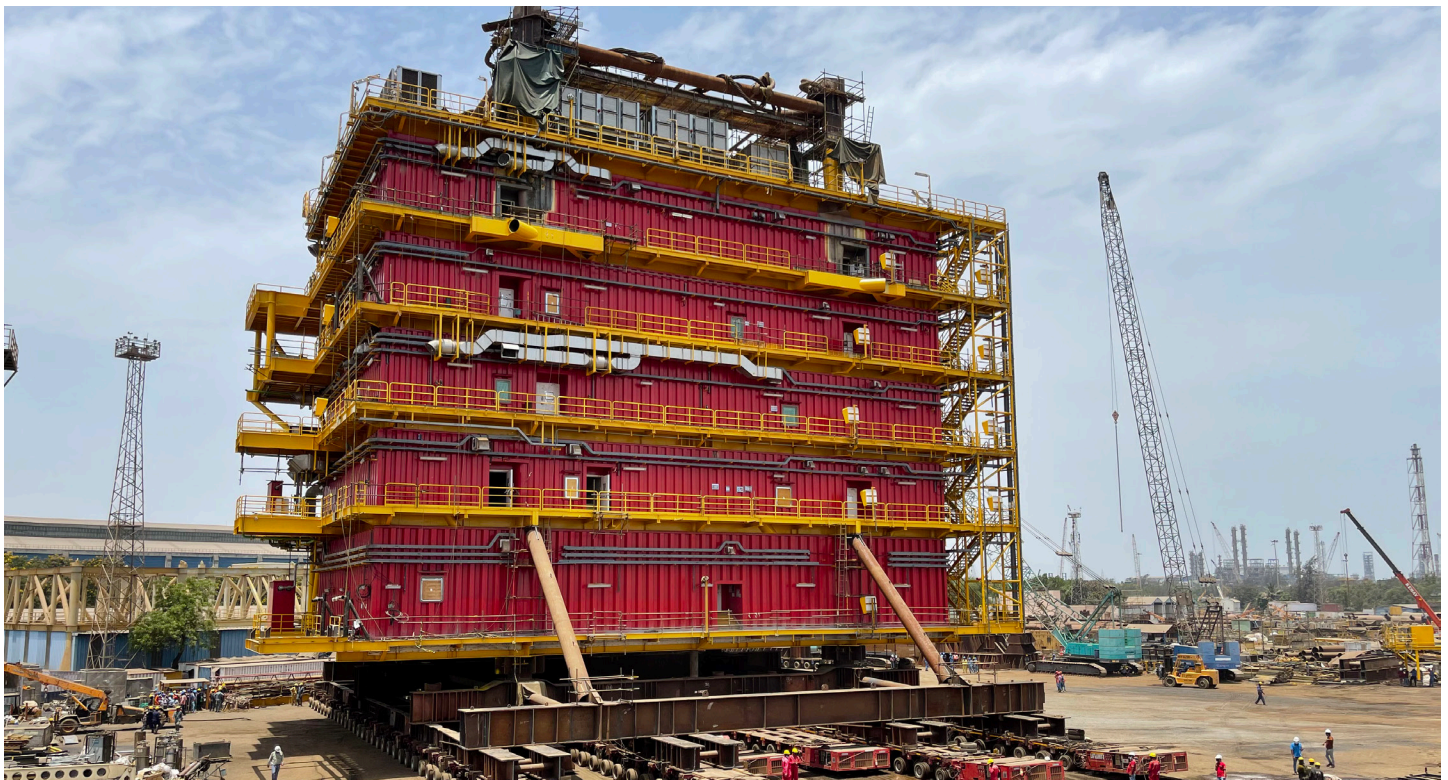


Multiple reactors: Typical 50 M (L) X 5.10 M (W) X 5.40 M (H) and 500 MTs each: Mode interchange on a temporarily constructed jetty. This is where assets, engineering, maritime knowledge, experience, sharpness of execution and committed personnel come together for a timely, safe and economical operation.

and experienced army of specialists that have developed the industry and grown with it, and to the years of sound capital investments in the sector.

India today possesses capacities for lifting, towing, jacking, carriage over land, sea, rivers, construction of temporary or permanent transport infrastructures and the like, that always measure up to the requirements of the industry. As

time goes by, the standards keep improving through conscious effort. The J M Baxi group with a 100 plus years in the sector, have witnessed, contributed and gained in this niche and challenging sector. As India moves onwards into its 76th year since independence, we shall always measure up, tonne to tonne, metre to metre, at whatever requirement is put to us, safely, economically and timely.



The LQ module: 4531 MTS, 45.2 M (L) X 49.8 M (W) X 41 M (H) Load Out - single piece



Ports & Logistics

Taking INDIA To The World Via Ports

75 glorious years of Indian Independence was celebrated on 15th August 2022. From being an impoverished country in 1947, India has risen over the years to become the fastest growing economy in the world with a consistent annual GDP growth of over 7 percent. From being a net importer of food grains, fertilisers, machinery etc., India has now come a long way in exporting food grains, machinery and goods and services to the world.

A close look at the Indian ports segment, reveals tremendous growth in the ports sector from traditional break bulk ships where cargo was handled manually on shore and in the ship's holds, to mechanised and modern cargo handling equipment, which has contributed to the expeditious handling of ships.

During this period J M Baxi has played a stellar role in the growth and progress of the Indian ports sector. From being a traditional cargo agent and freight forwarder, J M Baxi has witnessed growth, encompassing all aspects of shipping and logistics over the years and has grown to become a leading player in the maritime segment. The company now boasts

of over 65 branch offices at all major and minor ports of India, as well as in inland commercial towns. Over the last two decades, J M Baxi has forayed into container terminals and freight stations dotting the Indian coastline and interiors. Recently, the company has also ventured into the cruise terminal business, taking advantage of the increase in the number of foreign and domestic cruise lines evincing interest in operating at Indian ports.

To give a greater perspective of the involvement and commitment of J M Baxi to maritime growth in India, here is a quick look at the company's journey across some of India's ports.

KANDLA

After India's partition in 1947, Karachi port would naturally begin serving only Pakistan. The Indian government felt an urgent need for the development of a port in place of Karachi, to cater to the vast hinterland of north India. Kandla port was thus conceptualised to fill the vacuum. J M Baxi was involved in the growth and development of Kandla port since its inception. It may be noteworthy to mention that in the absence of any suitable hotels in Gandhidham (the town adjoining Kandla port), the team would rest in the railway

station waiting room. Such was the dedication and commitment of J M Baxi. Today, the company boasts of operating a very successful container terminal at Kandla with modern container handling equipment, along with handling other break bulk, bulk and liquid cargoes at other berths at Kandla port.

MUMBAI and NHAVA SHEVA

Mumbai being endowed with a large harbour and port infrastructure, developed into the commercial capital of India. A large variety of ships were handled and the port was always bustling with ships at anchorage, awaiting an opportunity to berth. J.M.Baxi & Co. had based their head office at Mumbai to cater to the various ships, and also to oversee the various branch offices from its home base. However, Mumbai being an island, various difficulties arose in clearing goods into and from the docks. Moreover, with the advent of containerisation, the movement of large trailer trucks transporting 20' feet and 40' feet containers through Mumbai roads proved challenging, leading to various delays and excessive turnaround times of container vessels. It was then that the Indian government decided to decongest Mumbai and its port, by developing the Nhava Sheva port across the Mumbai harbour.

Nhava Sheva port was conceptualised in the early eighties. It was primarily set up to handle containers including grain and fertiliser import cargoes. J M Baxi once again played a defining role right from the construction stage by handling project cargo ships for the setting up of the port. Once the port was commissioned, J.M.Baxi & Co. were the first agents to have



Ports & Logistics



TUTICORIN

Lying at the southernmost tip of India, Tuticorin is well positioned on the international east - west trade route between the far east and Europe. It is a matter of pride that in 1976-77 J.M. Baxi & Co were the first agents to handle a container ship in India wherein containers were transhipped from one vessel to another container vessel at Tuticorin port. The company was recently awarded the bid for operating a container terminal at the port, another feather in the cap and a showcase of commitment to the Indian shipping industry.

VIZAG

Lying on the east coast of India, Vizag port played an important role post-independence in the development of shipping. It had a ship building facility besides handling of cargoes catering to

their own office at the port and consistently bagged the best agent award for handling the maximum number of containers as well as grain and fertiliser ships. With growth in the domestic production of food grains and fertiliser, India became an exporter of food grains and hence the bulk terminal at the port was rendered idle. With the phenomenal growth in the container traffic at the port, it was decided to dismantle the mechanical cargo handling bulk system and replace it with additional container berths. Today, the J M Baxi group has been awarded the bid for operation of a container terminal along with CMA-CGM as the joint venture partners. J M Baxi also manages Mumbai International Cargo Terminals I and II for handling container vessels cargo.

At Mumbai, J M Baxi is also developing a modern international cruise terminal for handling of foreign and domestic cruise ships. This terminal is expected to be ready in 2023 for operation.



Ports & Logistics

the eastern hinterland. Vizag holds a soft spot and a place of pride in J M Baxi's history, as it helped realize the company's long awaited dream of foraying into the container and cargo terminals business when Vishaka Container Terminal was inaugurated in 2004. In 2021, an adjoining container terminal was built, thereby doubling the container berth capacity. Modern shore side quay cranes and gantries were installed and utmost care was taken to reduce the carbon footprint and create a green port terminal. J M Baxi has also developed a container freight station at Vizag to cater to the demands of the maritime trade.

PARADIP

Paradip port was developed post-independence to cater to the large import and export of bulk commodities in the hinterlands of Odisha, Bihar and Jharkhand. As iron, steel and other industries were developed in the region, Paradip witnessed significant growth as finished steel products, aluminum etc witnessed a spurt in exports. J M Baxi realised a need to develop a dedicated terminal and set up the Paradip Multipurpose Clean Cargo Terminal to cater to the handling of EXIM trade out of the port. Such was the success of this terminal in handling of container and other cargoes, that the turnaround times of the ships at the terminal were reduced considerably to the satisfaction of the shipowners and operators.



ROZI

Besides the earlier mentioned terminals, J M Baxi has also developed the bulk cargo handling and bagging facility for fertilisers at Rozi in Jamnagar, using their own dedicated barges to discharge the cargo from the stream alongside our Rozi Terminal.



DELHI

Delhi Inland Container Terminal was set up at Sonapat, outside Delhi to cater to the entire northern region which is connected to a large swathe of industries in the region. Besides having a dedicated railway siding, the terminal also boasts of a sophisticated

reefer cargo facility using modern digital techniques for storing and maintaining varied commodities with differentiated temperatures.

Inland waterways using the large network of rivers has been encouraged and developed by the Indian government. J M Baxi has been quick to realise the huge potential of the inland waterways and is in the process of developing this business on the National Waterway No.1 (Ganga River) as well as the National Waterway No.2 (Brahmaputra River).

J M Baxi is also in the process of developing cruise businesses at Indian ports, and besides developing and

operating the Mumbai International Cruise Terminal, it is also engaged in developing cruise terminals along the Indian coastline.

As India treads the next 25 years towards the centenary year of independence, the country is working towards fulfilling the vision of the government to become a fully developed nation with a place of pride in the world. J M Baxi too is moving steadfastly in supporting this vision. We shall be seeing a lot of changes and developments within the group of companies in the years to come and are ready to face the future with courage and pride.



Environmental, Social & Governance

The Governance in ESG

Governance is the foundation of ESG, and also the most historic of all the 3 components.

Rewinding to India's rich history and several ancient scriptures such as the Arthashastra and the Manusmriti, both explain the core principle of governance. One such principle being from Kautilya - Yatha Raja (Ruler) Thatha Praja i.e., subjects are the replica of its rulers, which if applied to today's corporate governance will connote, Raja to mean boards, being the custodians of governance in an organisation and Praja to mean its stakeholders, such as customers, employees, vendors, government, investors etc. The impact of a top-down approach to governance can be experienced by all stakeholders. Whilst environment and society in ESG are equally critical, governance plays an integral role of binding all the ESG components. Governance determines whether a business is being run sustainably, is behaving ethically, that it balances the interests of its stakeholders and that it has a positive influence on the environment it occupies. Therefore, without the G, merely the E or S could end up being standalone elements of any business model. Governance provides tools to bring in transparency and accountability in the functioning of an organisation's ESG framework.

G in ESG, is vitally important for the success of any organisation's ESG framework. Securing stakeholder confidence and the creation of a sustainable business, makes the governance element a core component of the overall value creation leading to competitive survival and growth.

Evolution of the corporate governance regulatory framework in India

Over the years, Corporate Governance has captured a spot of prominence in the corporate world. The first ever

regulatory framework was enacted in India through the Companies Act in the year 1866, which was later altered in 1882, 1913, 1932 and post-independence amendments to the Indian Companies Act, 1956. The concept of Governance in India finds its footprint in literature during the 1970's where corporate governance reforms were undergoing a significant overhaul. With the exponential growth of the Indian capital markets in the 1990's, SEBI was established as a statutory authority in 1992 to oversee regulate and govern the securities market in India. Since then, SEBI set up various committees such as the Kumar Mangalam Birla Committee, the Murthy Committee etc. In a nutshell, the reports of these committees emphasised the need for increased importance of auditors independence, Audit Committees, Independent Directors, quality of financial disclosures etc., thereby giving birth to the Listing Agreement.

However, due to increasing instances of some Indian corporations misusing and abusing its resources and shunning its obligations, for example cases of the biggest corporate governance failures in India like the Satyam scam, DHFL scandal, Café coffee day etc, SEBI's Committee on Corporate Governance headed by Uday Kotak (the Kotak Committee) undertook a comprehensive review of extant corporate governance norms in India. The committee considered several aspects of corporate governance, including corporate purpose and stakeholder interests, and focused on the business realities of Indian corporations, including the dominance of controlling-stockholders.

Over the next decade, after much debate, voluntary guidelines and lessons learnt through the numerous scandals, the government reacted to the fraud and corrupt practices by overhauling the regulatory framework, with the new Companies Act 2013,

which fixed liabilities of auditor and independent directors, among other changes. The passage of the 2013 Act was followed by new rules thereunder as well as separate SEBI administered regulations for listed companies in the form of Listing Obligations and Disclosure Requirements Regulation (LODR). SEBI's amended listing regulations reflect many of the recommendations of the Kotak Committee, Insider Trading, Unfair Trade Practices, amongst other regulations playing a significant role in implanting, monitoring and stabilising the framework.

Our understanding of the direction of future governance as it stands today, is that businesses are not only required to deliver on measurable performance parameters but also demonstrate a higher level of ethics and moral obligations to its stakeholders. This is especially important to investors, as the world witnesses the shift from traditional benchmarks to now incorporate sustainable growth in addition to wealth creation as their major objective. Organisations not only in India but worldwide are developing and implementing governance strategies as part of their ESG focus, to build sustainable business.

Governance at J M Baxi goes back 106 years

Founded in 1916, the J M Baxi group has constantly kept pace with the developing regime of governance in sync with the historic evolution of India's corporate governance structure. While it may have not been cloaked or categorised under ESG in the early days, our group has always believed in a top-down approach which flows in the form of its moral core values of honesty, humility, innovation and perseverance. Our group's morality has remained consistent throughout its existence,



Environmental, Social & Governance

earning the trust of the entire maritime and shipping fraternity and all its stakeholders. Amongst others, this can be witnessed by various well-renowned global groups/companies, confidence in choosing J M Baxi as a partner such as Bain Capital, CMA Group etc. J M Baxi's governance standards, including its ESG practices have withstood stringent scrutiny of various multilateral organisations such as International Finance Corporation - a sister organisation of the World Bank and member of the World Bank Group. Right from being a previously independently managed private limited entity until attaining the status of a public limited company, we have always adhered and committed ourselves to a robust governance framework, thus leading to long-term stakeholder value creation.

J M Baxi has always taken the responsibility of fair and transparent conduct from the time we were a privately held entity till recent time being an unlisted public entity. We have constantly recognised the role of the board of directors as that of guardians and trustees of the company in addition to helping protect its integrity. J M Baxi's board consists of accomplished individuals from diverse backgrounds, with decades of rich experience. Apart from the promoters, who have over the years continued to guide and serve the board of the company and add value as industry experts, our board has a variety of expert members including experts in the field of finance, industry and business allowing for the flow of multiple perspectives. These experts are positioned as independent directors on the Board of J M Baxi Ports & Logistics Limited which is the flagship holding entity. The board panel acts as an in-house regulator and navigator for strategic decisions, for not only our flagship entity but all of our subsidiaries including our step-down subsidiaries. Whilst the board forms the highest level of scrutiny, different sub-levels of internal controls are being added at committee level and at senior leadership level. In other words, J M Baxi's board is assisted by separate committees and

the structure is designed to help the board stay focused on strategy, yet allow in-depth scrutiny and focused attention, which will lead ultimately to evolve appropriate strategies. The committee structure at J M Baxi Ports & Logistics is so potent that not only all of our committees are chaired by independent directors but also consist only of non-promoter directors. These distinct statutory as well as voluntary, specific purpose committees derive their powers from the board in the form of terms of reference of those respective committees and add another layer of internal control measures. The group has always believed in securing the structure by adding layers of caution by voluntarily adopting the aforesaid procedures amongst others in order to maintain the highest standards of internal control mechanisms.

An added layer of accountability at the group is vested with the key managerial personnel and senior leadership of the group. These executive leadership positions hold accountability and responsibility for the execution of the board's decision. These positions are vested with powers for supervising their respective functions. Collectively, these voluntary practices are aimed at sustainable growth of its business, in a manner that protects the interests of all stakeholders. At J M Baxi group, training and development of all employees are an integral part of its governance framework, to inculcate the spirit of curiosity, learning and reading in the individual. JMB Uni-E (Universal Education) has been launched with the intent to create a structured platform for sharing organisational updates to encourage creative thinking in order to apply the learnings from training modules.

The governance structure is backed by a strong internal control structure including risk management, robust annual budgeting processes linked to measurable objectives, indicating how the group's resources shall be allocated until its end use. J M Baxi is a promoter of taking accountability in reporting and ensures high level

of fairness and transparency in reporting, highlighting compliance with laws and regulations as well as initiatives taken by the group. The group's financials undergo a dual layer of external verifications by internal as well as statutory auditors of the group, appointed by the Board only after recommendations of the audit committee. The recommendations are based on tallying scope of work with the requirement of the group, verification of background and experience of the shortlisted firms in the industry amongst other factors. With the chairman of the group vested personally in driving the compliance function, the group has implemented various internationally accepted standards of policies such as anti-bribery and anti-corruption policy, code of conduct for employees, a robust whistle blower policy, sanctions and trade control norms etc. which are strictly adhered to.

Good governance is in a state of vast transformation which is demonstrated by our technological advancement and how we develop our terminal assets and each of the facilities we offer. We value our legacy, deep domain expertise in the terminals and logistics ecosystems, operational excellence, robust planning, cost and capital discipline, technology adoption, values and purpose, ESG focus, people practices and emphasis on developing strong stakeholder relationships. Additionally, we take pride in the deployment of terminal operating systems, digitalisation strategy for each of our terminal assets and the deployment of experienced and professionally managed team of industry experts.

Although not new, governance at J M Baxi has been long standing, and kept evolving with the times. As the company looks to make the next big leap, it aims to shape new contours not just for the maritime industry but for industries in general as well. At J M Baxi, apart from measurable performance parameters, we have always prioritised to uphold the repute of being reliable custodians of moral and sustainable growth.



Weights And Measures

The Evolution Of Wheat In INDIA From Insufficient To Sufficient, From Abundance To High Quality Yields

Wheat is one of the most important and largest cultivated cereal crops in the world and counts as a staple food grain for most countries. It is also one of the most traded agri-commodities.

In India, it holds a revered position in agriculture. Its annual yield was almost 107.59 MMT (in a 31.45Mn Ha area) during the 2019-20 July-June period, which is higher by 11.43 MMT than the average wheat production of 96.16 MMT in the country.

India is also one of the largest producers of wheat globally – the 2nd largest after China, and accounts for approximately 14 percent share of total global wheat production.

Production – geographical layout

Wheat cultivation in India has traditionally been dominated by the

northern region of India. The largest wheat producing states are Uttar Pradesh, Madhya Pradesh, Punjab, Haryana, Rajasthan, Bihar and Gujarat.

The below table provides the top 10 states that contribute towards production of wheat in India:

SN.	State	Production (MMT)	Share (%)
1	Uttar Pradesh	33.82	31%
2	Madhya Pradesh	19.61	18%
3	Punjab	17.62	16%
4	Haryana	11.88	11%
5	Rajasthan	10.92	10%
6	Bihar	5.58	5%
7	Gujarat	3.33	3%
8	Maharashtra	1.79	2%
9	Uttarakhand	0.90	1%
10	Himachal Pradesh	0.56	1%
11	Others	1.86	2%
G. Total		107.86	

Source: APEDA

Wheat is a rabi crop and is mainly harvested from March onwards.

However, due to its susceptibility to unexpected changes of weather, the wheat crop in India faces a unique problem of cyclical periods which consists of huge surplus crop followed by drastic falls in production, and thus, India assumes the role of a net exporter alternated by net importer.

Evolution of wheat in India

Wheat is India's biggest winter crop, with planting happening in October and November, and harvesting in March and April. The production and productivity of wheat was quite low when India became independent in 1947. During 1950-61, the production of wheat was only 6.5 MMT and productivity was merely 663 kg per hectare, which was not sufficient to meet domestic demand, compared to 3,421 kg per hectare in 2019-20. To help bridge this gap, the country used to import wheat in large quantities from many countries like USA.

The reasons of low wheat production and productivity earlier were:

- The tall growing plant habit resulting in lodging, when grown under fertile soils
- The poor tillering and low sink capacity of the varieties used
- Higher susceptibility to diseases
- Higher sensitivity to thermo and photo variations etc., resulting in poor adaptability
- Longer crop duration resulting in a long exposure of plants to the climatic variations and insect pest / disease attacks

Famines in India

After 1947, independent India was left with 82 percent of the population and only 75 percent of the cereal



Weights And Measures

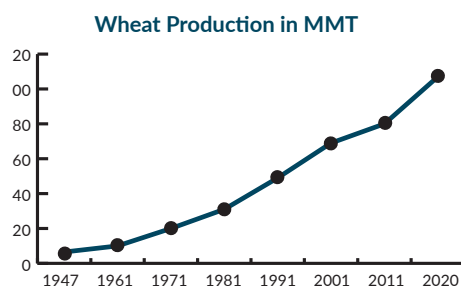
production, causing significant food insecurity.

In the year of independence, the government formed a food policy commission to advise measures to increase domestic food production and procurement. However, despite several recommendations from the commission, foodgrain production plateaued in the 1950's.

The following decades saw the magic of the Green Revolution that spurred agricultural output with high-yielding variety seeds and a more scientific approach.

The Government of India appointed a commission in 1961 to assess the feasibility of increasing crop productivity under prevailing Indian ecological conditions. Also, Food Corporation of India (FCI), was set up in 1965 to regulate a system that could resolve the food problems of the country and to meet contingencies in the future, especially considering the aftermath of the famine in Bengal in 1943. FCI stabilised agricultural prices with market intervention and price support. As result of various steps taken by Govt. of India, the wheat scenario in India has completely changed.

Below graph shows the growth of wheat production in the country:
Source: Bloomberg



After averting a famine in 1965, India began agricultural reforms that put it on a pathway for increased production. Immediately post-independence,

the country used to import wheat for consumption. However, due to bumper increase in the production and productivity of wheat during the Green Revolution period in the late sixties, the country became self-sufficient in wheat production.

In view of surplus production and higher availability in the domestic market, import tariff on wheat had been increased from the prevailing 30 percent to 40 percent in April 2019, to discourage imports and safeguard the domestic farming community.

India has already built a formidable reputation as an exporter of quality wheat, comparable to the US Soft Red Winter (SRW) variety and the Black Sea milling varieties, at value prices. Indian wheat that is exported, normally, has moisture not exceeding 12 percent, a minimum protein of 11.5 percent, gluten at minimum 26 percent, and a falling number of 400 seconds minimum, which makes it a strong competitor to wheat from other origins.

Production, consumption and EXIM

Below table provides the statistics on the Indian wheat scenario:

SN	Particulars	2020-21* (MMT)	2021-22* (MMT)
1	Carry over stock	26.92	31.21
2	Production	103.21	102.68
3	Imports	-	-
4	Total availability (1+2+3)	130.13	133.81
5	Consumption	96.99	97.30
6	Exports	1.93	3.27
7	Total usage (5+6)	98.92	100.57
8	Closing Stock (4-7)	31.21	33.32

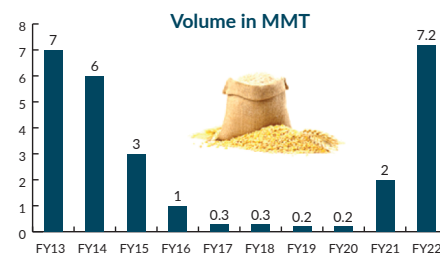
Source: Agriwatch

*July-June

India's wheat exports was under 0.3 MMT during FY16 to FY20. However,

in subsequent years exports increased from 2 MMT in FY21 to 7.2 MMT in FY22, owing to surplus production coupled with higher carryover stock.

The below graph shows the exports of wheat from India over past 10 years:



Wheat exports in MMT

Source: APEDA

Kandla (3.4 MMT-FY22) and Mundra (0.4 mmt-FY22) ports in the western state of Gujarat are the main gateways for wheat exports from India.

India's Journey from a famine-ridden country to becoming a food exporter

From an importer to an exporter, India has turned the tides and extensive research efforts are underway for improving the crop output even during adverse weather conditions in the years to come.

Due to favorable logistical advantages, India is now a preferred source for exports to such destinations as Bangladesh, Middle East Asian countries, South-East Asian countries, and African countries such as Ethiopia. However, even though India breaks its wheat export numbers every year, tackling domestic hunger is still a challenge in the country. Experts suggest that a more robust public distribution system and a more efficient supply chain, might be the key aspects to ponder while addressing the issue.

Port Statistics

SHIPPING AND CARGO PERFORMANCE

QUARTERLY UPDATES ON INDIAN MAJOR AND MINOR PORTS (QTY IN MILLION TON)
APR - JUN 2021-22 V/S APR - JUN 2020-21

LIQUID COMMODITIES & GASES										
	CRUDE OIL & OIL		CHEMICALS & LUBES		EDIBLE OIL & MOLASSES		ACIDS		LIQUIFIED GASES	
	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22
No of Ships Called	1420	1305	610	675	306	323	159	163	413	365
Total Cargo handled	83.15	82.37	5.82	7.70	3.38	4.22	1.97	1.73	10.71	10.85
Import	18.86	19.59	2.12	2.39	0.34	0.42	0.14	0.00	0.16	0.11
Export	64.29	62.78	3.70	5.31	3.04	3.80	1.83	1.73	10.54	10.74
FINISHED FERTILISERS & FERTILISER RAW MATERIALS										
	UREA		SULPHUR		ROCK PHOSPHATE		DAP		MOP	
	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22
No of Ships Called	32	38		18	49	61	20	23	22	27
Total Cargo handled	1.3	1.6	0.5	0.6	2.2	2.2	0.9	1.1	0.6	0.8
Import	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Export	1.3	1.6	0.2	0.3	2.2	2.2	0.9	1.1	0.6	0.8
COAL AND COKE										
	NON COKING COAL		COKING COAL		MET COKE		PET COKE		OTR GRADES OF COKE	
	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22
No of Ships Called	891	784	301	308	11	26	45	25	18	17
Total Cargo handled	66.06	58.52	14.28	16.91	0.33	0.63	1.99	0.81	0.28	0.38
Import	11.30	6.94	0.20	0.11	0.02	0.16	0.03	0.09	0.08	0.05
Export	54.76	51.58	14.08	16.8	0.31	0.47	1.97	0.72	0.20	0.33
OTHER BULK & BREAK BULK CARGO										
	CEMENT		MINERALS		IRON ORE		STEEL PRODUCTS & PROJECT CARGO		GRANITE	
	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22
No of Ships Called	134	135	446	379	268	500	420	415	45	59
Total Cargo handled	1.93	1.86	16.82	15.14	17.53	26.32	3.72	4.73	1.03	1.37
Import	0.76	0.87	5.26	3.77	10.94	20.24	2.28	3.67	1.03	1.37
Export	1.17	0.99	11.56	11.37	6.59	6.08	1.43	1.06	0.00	0.00
AGRICULTURAL PRODUCTS & EXTRACTIONS										
	SUGAR		RICE		SOYA BEAN MEAL		RAPE SEED MEAL		COPRA EXPELLER CAKE	
	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22	Apr-Jun, 2022-23	Apr-Jun, 2021-22
No of Ships Called	89	60	79	111	8	22	2	5	6	11
Total Cargo handled	2.701	1.760	2.280	1.796	0.160	0.468	0.063	0.062	0.055	0.069
Import	0.256	0.176	0.007	0.040	0.073	0.000	0.000	0.000	0.055	0.069
Export	2.445	1.584	2.274	1.756	0.087	0.468	0.063	0.062	0.000	0.000

* Total Cargo Includes Liquid Cargo , Bulk Cargo and Other Cargoes and Excludes Containers

Port Statistics

INDIAN PORT PERFORMANCE

APR - JUN 2021-22 V/S APR - JUN 2020-21
CARGO THROUGHPUT (QTY IN MILLION TON)

Ports	Types of Ports	NO. OF SHIPS		LIQUID CARGO		BULK CARGO		CONTAINERS (TEUS)		TOTAL CARGO *	
		APR-JUN 2023	APR-JUN 2022	JAPR-JUN 2023	APR-JUN 2022	APR-JUN 2023	APR-JUN 2022	APR-JUN 2023	APR-JUN 2022	APR-JUN 2023	APR-JUN 2022
KANDLA	PUBLIC	792	609	3.80	3.35	9.88	7.49	126157	127849	13.68	10.84
MUMBAI	PUBLIC	589	478	7.03	6.77	2.38	1.12	1471589	0	9.41	7.88
JNPT	PUBLIC	244	172	1.56	1.50	0.32	0.19	0	1363702	1.88	1.69
MORMUGAO	PUBLIC	113	100	0.16	0.12	4.06	4.74	0	0	4.21	4.86
MANGALORE	PUBLIC	395	339	6.87	5.50	2.74	3.44	0	0	9.61	8.94
COCHIN	PUBLIC	291	222	5.26	5.29	0.44	0.45	181431	159119	5.70	5.74
TUTICORIN	PUBLIC	248	228	0.36	0.27	4.87	4.05	209119	199364	5.23	4.32
CHENNAI	PUBLIC	240	161	3.68	3.03	0.97	0.34	363013	400844	4.64	3.37
ENNORE	PUBLIC	232	176	1.17	1.10	7.33	5.85	158166	113517	8.50	6.95
VISAKHAPATNAM	PUBLIC	494	520	4.25	4.02	12.86	11.23	136617	126389	17.11	15.25
PARADIP	PUBLIC	560	540	10.14	9.54	23.22	19.92	3580	2640	33.36	29.46
HALDIA	PUBLIC	488	432	3.08	3.15	5.22	5.45	28974	48123	8.30	8.59
KOLKATA	PUBLIC	21	23	0.02	0.01	0.03	0.07	140596	142473	0.05	0.08
GANGAVARAM	PRIVATE	99	117	0.00	0.00	6.64	8.33	0	0	6.64	8.33
PIPAVAV	PRIVATE	110	86	0.22	0.15	1.63	1.55	186561	149952	1.85	1.69
MUNDRA	PRIVATE	961	834	7.05	6.48	10.94	9.61	1645758	1605672	17.99	16.09
BEDI	PUBLIC	14	14	0.00	0.00	0.67	0.48	0	0	0.67	0.48
DAHEJ	PRIVATE	219	140	6.12	4.81	3.56	2.04	0	0	9.68	6.85
HAZIRA	PUBLIC	188	270	0.59	3.66	15.81	7.46	142723	172781	16.39	11.12
NAVLAKHI	PUBLIC	34	30	0.00	0.00	2.29	2.58	0	0	2.29	2.58
KAKINADA	PRIVATE	197	193	0.59	0.68	3.46	2.84	350	1212	4.05	3.52
SIKKA	PRIVATE	460	344	33.55	31.27	0.00	0.00	0	0	33.55	31.27
VADINAR	PRIVATE	47	133	7.67	13.47	0.00	0.00	0	0	7.67	13.47
KRISHNAPATNAM	PRIVATE	211	203	0.30	0.41	11.37	10.29	9662	83836	11.67	10.70
KATTUPALLI	PRIVATE	18	10	0.00	0.07	0.09	0.04	163842	106145	0.09	0.11
BHOGAT	PRIVATE	7	4	0.54	0.34	0.00	0.00	0	0	0.54	0.34



MARINE SERVICES

J. M. BAXI & CO.
BOXCO SHIPPING SERVICES
UNITED LINER SHIPPING SERVICES
ARYA OFFSHORE SERVICES
CONTAINER MOVEMENT
(BOMBAY) TRANSPORT
"K" STEAMSHIP AGENCIES
EASTERN LINER SHIPPING

PORTS & LOGISTICS

PROJECT HEAVY LOGISTICS
COLD CHAIN LOGISTICS
BULK LOGISTICS
RAIL LOGISTICS
KANDLA CONTAINER TERMINAL
HALDIA CONTAINER TERMINAL
VISAKHA CONTAINER TERMINAL I
VISAKHA CONTAINER TERMINAL II
TUTICORIN CONTAINER TERMINAL
NHAVA SHEVA FREEPORT CONTAINER TERMINAL
VISAKHA CONTAINER FREIGHT STATION
MUMBAI CONTAINER FREIGHT STATION I
MUMBAI WAREHOUSING & LOGISTICS PARK
DELHI INLAND CONTAINER TERMINAL
INCHHAPURI INLAND CONTAINER TERMINAL
PARADIP MULTIPURPOSE CLEAN CARGO TERMINAL
ROZI BULK TERMINAL
THE BALLARD PIER

TECHNOLOGIES

DIABOS
PORTALL
ARYA WATER
ARYA COMMUNICATIONS &
ELECTRONICS SERVICES

