



SAGARMALA: Port lead development

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Abstract: The Sagarmala Programme, initially conceived by the National Democratic Alliance (NDA) government led by Atal Bihari Vajpayee in 2003, received cabinet approval in March 2015 as a strategic initiative akin to the Golden Quadrilateral, focusing on maritime development. Sagarmala envisions a transformative shift in India's logistics and maritime sector, with a core objective of significantly lowering costs associated with both domestic and Export-Import (EXIM) cargo. The initiative strategically focuses on optimizing infrastructure investments to achieve substantial annual savings estimated between INR 35,000 to 40,000 crore. These savings are anticipated to result from direct cost reductions and increased efficiency in inventory handling, particularly in the transportation of containerized goods. Sagarmala's impact extends beyond current industrial capacities, encompassing future coast-proximate facilities for energy, material, marine, and discrete industries, fostering growth through port-linked industrialization. Emphasizing environmental sustainability, the initiative also aims to curtail carbon emissions from the transportation sector, targeting a reduction of 12.5 million tonnes annually.

Index Terms -Sagarmala Programme, Coastlines, Maritime India Summit.

I. INTRODUCTION

India boasts a diverse and extensive coastline that stretches for approximately 7,516 kilometres. This coastline is characterized by a rich variety of landscapes, including sandy beaches, rocky shores, and mangrove-lined estuaries. India's coastal areas are distributed across multiple states and union territories, and they are vital for the country's economic, cultural, and ecological well-being. The Indian coastline is bordered by the



Figure 1: Under SAGARMALA project covered states

Ref: <https://targetupsc17.wordpress.com/sagarmala-project/>

- 1. West Coast (Arabian Sea):** Major states along the west coast include Gujarat, Maharashtra, Goa, Karnataka, and Kerala. The coastline is home to popular tourist destinations such as Goa and Kerala, known for their beautiful beaches and backwaters.
- 2. East Coast (Bay of Bengal):** The eastern coastline stretches along the Bay of Bengal and is characterized by delta regions, estuaries, and mangrove forests. States along the east coast include

West Bengal, Odisha, Andhra Pradesh, and Tamil Nadu. The Sundarbans, the largest mangrove forest in the world, is located in the delta region of the Bay of Bengal.

3. **Southern Coast (Indian Ocean):** The southern coastline includes the southernmost tip of the Indian subcontinent. States like Tamil Nadu and Kerala contribute to the diverse topography of the southern coast. Kanyakumari, situated at the meeting point of the Arabian Sea, the Bay of Bengal, and the Indian Ocean, is a prominent landmark.

Sagarmala is a far-reaching national initiative that seeks to revolutionize India's logistics sector by fully utilizing its extensive coastline and waterways. The primary vision is to significantly cut down logistics costs for both domestic and international trade through strategic infrastructure investments. The initiative aims for substantial annual savings, estimated at INR 35,000 to 40,000 crore, encompassing direct cost reductions and efficiencies in inventory-handling costs, particularly for container transportation. The potential savings are not limited to existing industrial capacities but extend to future capacities in energy, materials, marine, and discrete industries that may emerge through port-linked industrialization. A notable environmental objective is to reduce carbon emissions from the transportation sector by 12.5 million tons per annum. Central to the Sagarmala vision is the concept of "port-led development," which focuses on industries with complex logistics requirements, where transportation costs are significant, and timely logistics are crucial. These industries are strategically positioned in proximity to the coast or waterways, benefiting from modern and efficient port infrastructure and seamless multi-modal connectivity. Additionally, the nearby population is expected to possess the necessary skills to actively participate in the economic opportunities that arise. The synchronized development of these interconnected components—logistics-intensive industries, advanced ports, seamless connectivity, and a skilled workforce—ultimately results in unlocking substantial economic value. Sagarmala, therefore, represents a holistic strategy not only to enhance transportation and logistics efficiency but also to drive economic growth, encourage industrial development, and establish a sustainable and environmentally responsible framework for India's coastal and waterway regions.

II. VISION OF SAGARMALA PROJECT

The vision of Sagarmala Project is based on four pillars;

A. Port Modernisation

Port modernization refers to the strategic upgrading and enhancement of maritime facilities to meet contemporary standards and demands, fostering increased efficiency, capacity, and competitiveness. This process involves the integration of advanced technologies, improved infrastructure, and streamlined operational practices to optimize the overall functioning of ports.

B. Port Connectivity

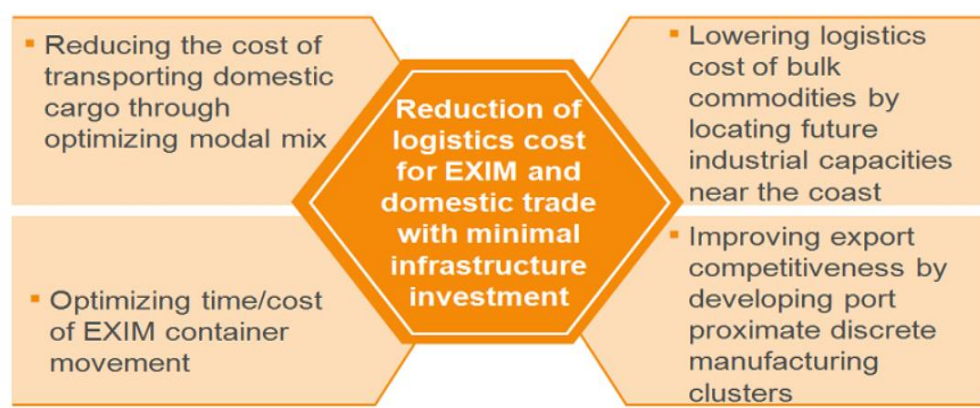
Port connectivity refers to the seamless integration and accessibility of ports with various transportation modes and hinterland regions, ensuring efficient and smooth movement of goods and people. A well-established port connectivity network is crucial for optimizing trade, enhancing economic growth, and strengthening a country's logistics infrastructure.

C. Port lead Industrialisation

Port-led industrialization is a strategic approach that leverages the proximity of ports to drive economic development and industrial growth in the surrounding regions. This concept involves the establishment of industrial zones, manufacturing facilities, and related infrastructure in close proximity to major ports.

D. Coastal Community Development

Coastal community development refers to the planning, management, and sustainable development of communities located along coastlines. These areas are often characterized by their proximity to the ocean or other bodies of water. Coastal communities face unique challenges and opportunities related to their geographic location, including issues such as sea-level rise, erosion, storm surge, fisheries management, tourism, and environmental conservation.



III. STATES UNDER SAGARMALA

As per information was given by the Union Minister for Ports, Shipping and Waterways, Shri Sarbananda Sonowal in a written reply to the Lok Sabha.

The Sagarmala Program, initiated by the Ministry of Ports, Shipping, and Waterways in India, is a comprehensive scheme aimed at fostering economic development through strategic port-led initiatives. With a focus on harnessing India's vast coastline, navigable waterways, and favourable maritime location, the program encompasses a range of projects supported by financial assistance to State Governments. These projects span diverse categories, including port infrastructure, coastal berths, road and rail developments, fish harbours, skill development, coastal community initiatives, cruise terminals, and Ro-Pax ferry services.

Under the Sagarmala Scheme, the Ministry collaborates with various stakeholders, including Major Ports, State Maritime Boards, and relevant ministries such as Railways and Road Transport and Highways. A key highlight is the identification of 107 road and rail connectivity gaps for both Major and Non-Major Ports in the Comprehensive Port Connectivity Plan (CPCP), aiming to enhance linkages between ports and domestic production/consumption centres.

The National Technology Centre for Ports, Waterways, and Coasts (NTCWPC), established at IIT Chennai with an investment of Rs. 77 Crore, serves as the technological arm of the Ministry. This centre is dedicated to developing cutting-edge technologies and application products, addressing challenges faced by the Ports and Shipping Sector.

Providing transparency in project progress, the Ministry offers state-wise details of the number of projects, funds allocated, and their current status. The program's geographic focus on India's extensive coastline and strategic maritime positioning underscores its commitment to leveraging these natural advantages for sustainable and inclusive development. In essence, the Sagarmala Program represents a holistic and ambitious initiative to drive economic growth, improve connectivity, and overcome challenges in the maritime sector, fostering resilience and progress in coastal areas.

Table 1: State wise details of Sagarmala Projects

State	Total No. of Projects
Gujarat	12
Maharashtra	46
Goa	8
Karnataka	31
Kerala	9
Tamil Nadu	22
Andhra Pradesh	14
Odisha	6
West Bengal	11
Puducherry	2
Andaman & Nicobar Islands	8
Daman & Diu	2
Total	171

Table 2: State wise details of Sagarmala Port Modernization and Port Connectivity projects

State	Total No. of Projects
Maharashtra	5
Goa	6
Karnataka	3
Kerala	3
Tamil Nadu	7
Andhra Pradesh	3
West Bengal	7
Puducherry	1
Daman & Diu	2
Total	37

IV. DEVELOPMENT OF PORTS IN ANDHRA PRADESH

Andhra Pradesh, as an integral part of the Sagarmala Programme, has earmarked 113 projects with an estimated expenditure of around Rs. 1.2 lakh crore for implementation. These projects span a wide array of categories, ranging from the modernization of existing ports and terminals to the development of Rollon-Rolloff and tourism jetties, the enhancement of port connectivity, inland waterways initiatives, industrialization around ports, skill development programs, and the establishment of technology centres. The collaborative execution of these projects involves Central Line Ministries, State Maritime Boards, Major Ports, and Special Purpose Vehicles (SPV), with a preference for private sector engagement and Public-Private Partnership (PPP) models where feasible.

Within this comprehensive initiative, 36 projects with a total value of Rs. 32,000 crores have successfully reached completion, demonstrating tangible progress. Concurrently, 77 projects valued at

Rs. 91,000 crores are currently in diverse stages of implementation and development, illustrating the dynamic nature of this strategic endeavour.

This approach underscores a steadfast commitment to advancing port-led development in Andhra Pradesh, emphasizing modernization, connectivity enhancement, and the integration of sectors such as tourism, skill development, and technology. The incorporation of private sector partnerships and PPP models further reinforces the Sagarmala Programme's overarching goal of fostering sustainable and economically viable projects in the region.

Table 3: List of uncompleted projects under SAGARMALA

LIST OF UNCOMPLETED PROJECTS IN ANDHRA PRADESH (AS ON 25 JUL 2023)					
Sl. No	Project Name	Theme	Total Cost (Rs. Cr)	Implementing agency	Project Status
1	Bhavanapadu Port rail link	Port Connectivity	TBA	Adani Ports	DPR to be Prepared
2	Cement cluster in AP	Port led Industrialization	24,500	APIIC	DPR to be Prepared
3	2 to 4 laning of road connecting Kakinada port to NH 16 at Rajanagaram in Godavri District	Port Connectivity	1,074	APRDC	DPR to be Prepared
4	Construction of passenger jetty at Bhavani island- Krishna district	Port Modernization	22	APTDC	Under Implementation
5	Construction of Passenger Jetty at Baruva in Srikakulam	Port Modernization	59	APTDC	DPR under preparation
6	Construction of Tourism Passenger Jetty at Manginapudi- Krishna	Port Modernization	74	APTDC	DPR Prepared
7	Construction of Tourism Passenger Jetty at Kothapatnam- Prakasam	Port Modernization	62	APTDC	DPR Prepared
8	Construction of Tourism Passenger Jetty at Maypadu- SPS Nellore	Port Modernization	58	APTDC	DPR under preparation
9	Development of Passenger Jetty- Sea Plane Jetty and upgradation of existing jetty at Kakinada	Port Modernization	58	APTDC	DPR Prepared
10	Construction of a passenger Jetty at Bheemunipatnam	Port Modernization	79	APTDC	DPR under preparation
11	Construction of a passenger Jetty at Kalingapatnam	Port Modernization	48	APTDC	DPR under preparation
12	Development of passenger jetties at Kakinada Port for tourism	Port Modernization	100	Department of Ports, GoAP	Under Tendering
13	Modernization of Infrastructure at Kakinada Anchorage Port	Port Modernization	90	Department of Ports, GoAP	DPR to be Prepared
14	Setting up logistics and Maritime University at Kakinada	Coastal Community Development	300	Department of Ports, GoAP	DPR to be Prepared
15	New Port at Machhilipatnam -Phase 1	Port Modernization	11924	Department of Ports, GoAP	DPR under preparation
16	New Port - Bhavanapadu	Port Modernization	4000	Department of Ports, GoAP	Under Implementation
17	Development of Fishing Harbour in Juvvaladinne in SPSR Nellore District in the State of Andhra Pradesh.	Coastal Community Development	242	Fisheries Department, GoAP	DPR Prepared
18	Phase 2 development of existing fishing harbour at Machilipatnam in Krishna district	Coastal Community Development	252	Fisheries Department, GoAP	DPR Prepared
19	Phase 2 development of existing fishing harbour at Nizampatnam in Guntur district	Coastal Community Development	341	Fisheries Department, GoAP	DPR Prepared

20	Development of fishing harbour at Vodarevu in Prakasam district	Coastal Community Development	409	Fisheries Department, GoAP	DPR Prepared
21	Development of fishing harbour at Uppada -V U. Kotapalli -M in East Godavari district	Coastal Community Development	289	Fisheries Department, GoAP	DPR Prepared
22	New Port - Kakinada SEZ -KSEZ	Port Modernization	2123	GMR	Under Tendering
23	Bhadrachalam- Kovvuru New BG Line -151 Km	Port Connectivity	2,154	Indian Railways	Under Implementation
24	Kotipalli- Narsapur New BG Line -57.21 Km	Port Connectivity	2,120	Indian Railways	Under Implementation
25	Kirandul-Jagdalpur	Port Connectivity	1161	Indian Railways	Under Implementation
26	Jagdalpur-Koraput doubling	Port Connectivity	1547	Indian Railways	Under Implementation
27	Vizianagram-Titlagarh (sambalpur)	Port Connectivity	2336	Indian Railways	Under Implementation
28	Kottavalasa-Jagdalpur(Koraput)	Port Connectivity	2500	Indian Railways	Under Implementation
29	Koraput-Singapur Road.	Port Connectivity	2362	Indian Railways	Under Implementation
30	Kakinada - Pithapuram	Port Connectivity	220	Indian Railways	Under Implementation
31	Gudur-Durgarajapatnam	Port Connectivity	761.37	Indian Railways	Under Implementation
32	Develop NW4 -from Vijayawada to Galagali on Krishna river Kakinada- Vijayawada - Muktyala-Vijayawada to Thada	Port Connectivity	7,002	IWAI	Under Implementation
33	Greenfield Electronics manufacturing Cluster in Renigunta and Yerpdeu Mandal- Chittor District- Tirupati- AP	Port led Industrialization	9706.75	MeitY	Under Implementation
34	Greenfield Electronics manufacturing Cluster in Vikruthamala Village- Yerpada Mandal- Chittor District- Tirupati- AP	Port led Industrialization	5719.8	MeitY	Under Implementation
35	Greenfield Electronics manufacturing Cluster in Cherivi Village- Satyavedu Mandal- Chittor District- Tirupati- AP	Port led Industrialization	1604.41	MeitY	Under Implementation
36	Power Cluster in AP -Krishnapatnam	Port led Industrialization	37428	Ministry of Power	Under Implementation
37	Petrochemical cluster in Kakinada	Port led Industrialization	4,520	MoC&F	DPR to be Prepared
38	APIIC Mega Food Park	Port led Industrialization	375	MoFPI	Under Implementation
39	Coastal Districts Skill Development Program - Phase 2 -Andhra Pradesh	Coastal Community Development	6	MoRD (DDU-GKY)	Under Implementation
40	Upgrading of NH 216 from 2 lane to 4 lane Digamarru to Ongole	Port Connectivity	3,731	MoRTH	Under Implementation
41	Upgradation of the proposed NH-67 From Bellary -Karnataka to Krishnapatnam -Andhra Pradesh	Port Connectivity	2,440	MoRTH	Under Implementation
42	Development of dedicated Machilipatnam Port Rail Connectivity from Pedana Station	Port Connectivity	40	Navyuga	DPR to be Prepared
43	Development of rail siding with number of holding lines in Machilipatnam	Port Connectivity	250	Navyuga	DPR to be Prepared
44	4 laning of Kakinada Anchorage Port Uppada beach road connecting NH-16 in East Godavari District	Port Connectivity	980	NHAI	DPR under preparation

45	Greenfield road connecting north and south industrial cluster of Khandaleru Creek near Krishnapatnam port	Port Connectivity	580	NHAI	DPR under preparation
46	4 laning of road from Nellore city to Krishnapatnam port to NH 5	Port Connectivity	300	NHAI	DPR to be Prepared
47	Upgradation of the hinterland road From Naidupeta -in Nellore District of AP to Krishnagiri -in TN	Port Connectivity	3,000	NHAI	Under Implementation
48	Construction of grade separator from H-7 area to Port connectivity Road by passing Convent Junction - Vizag Port	Port Connectivity	60	NHAI	Under Implementation
49	Road connecting Vizag Port from Sheela Nagar junction to Anakapalli-Sabbavaram-Pendurti - Anandapuram road i.e. NH-16 -Former NH-5	Port Connectivity	2,352	NHAI	Under Implementation
50	Formation of new road from L-Arm road Junction to Dummulapeta Beach Road at NCS storage system including construction of bridge on Dummulapeta Creek at Kakinada Anchorage Port	Port Connectivity	50	NHAI	DPR under preparation
51	4 to 6 laning of road connecting Krishnapatnam Port to NH 5 in SPSR Nellore District of Andhra Pradesh	Port Connectivity	315	NHAI	Under Implementation
52	Flyover-RoB over ADB road -Kakinada Deep water port from Kumbhabhishek Temple to fishing Harbour at Kakinada	Port Connectivity	350	NHAI	DPR to be Prepared
53	4 laning of Manginapudi Beach Road connecting Machilipatnam	Port Connectivity	60	NHAI	DPR under Preparation
54	Four lane green field road from Machilipatnam South Port to NH-9 in the State of Andhra Pradesh	Port Connectivity	458	NHAI	DPR under preparation
55	Four Lane green field road from Machilipatnam North Port to NH-SH-46 in the State of Andhra Pradesh	Port Connectivity	232	NHAI	DPR under Preparation
56	Expressway from Sanathnagar industrial cluster - Hyderabad to Vodarevu	Port Connectivity	10,000	NHAI	DPR to be Prepared
57	Up grading of existing RandB road from Chilakaru cross -NH-16 to Power Plants	Port Connectivity	300	NHAI	DPR under preparation
58	Greenfield bypass road connecting Gangavaram port in Visakhapatnam District -Lanes to be specified	Port Connectivity	80	NHAI	DPR under preparation
59	Four lane Beach Road connecting Gangavaram Port to the SEZ proposed at Achuthapuram in Visakhapatnam District	Port Connectivity	138	NHAI	DPR under preparation
60	4 to 6 laning of road connecting to NH16 at Gajuwaka to Gangavaram Port	Port Connectivity	50	NHAI	DPR under preparation
61	4 lane road to Krishnapatnam Port from Naidupeta in AP	Port Connectivity	670	NHAI	DPR under preparation
62	Development of 7.2 Km green field road connecting NH 65 to Machilipatnam Port in the State of Andhra Pradesh.	Port Connectivity	175	NHAI	DPR Under Preparation
63	Road Connectivity From Outer Harbour To Port Connectivity Junction -B at Vizag port -4 Lane road from existing East Break Waters upto Convent Junction	Port Connectivity	500	NHAI	DPR Prepared
64	Fly over bridge from Sea-horses junction area to dock area at Vizag Port	Port Connectivity	277	NHAI	DPR to be Prepared

65	4 to 6 laning of road connecting VPT East breakwater to Sheela Nagar Junction	Port Connectivity	TBA	NHAI	DPR under preparation
66	Construction of flyover bridge - FOB at Nathayyapalem - Mindi on NH-16	Port Connectivity	TBA	NHAI	DPR under preparation
67	Four lane coastal road from Gangavaram Port to Vizag Port	Port Connectivity	TBA	NHAI	DPR under preparation
68	Construction of flyover-under-pass at Vizag airport junction to ensure flow of container trailers to-from MMLP setup at NH-16	Port Connectivity	TBA	NHAI	DPR to be Prepared
69	Development of outer ring road from East Breakwater to Sheelanagar	Port Connectivity	TBA	NHAI	DPR to be Prepared
70	4 laning of Varagali Road from Chillakur Cross to Chintawaram Package II Km 0.000 To Km 16.450 in AP	Port Connectivity	332.87	NHAI	DPR under preparation
71	Port road to Krishnapatnam Port (Pkg I)	Port Connectivity		NHAI	DPR to be prepared
72	Development of New Berth EQ 1A - Vizag	Port Modernization	313	VPT	Under Implementation
73	Additional Oil Jetty -OR3 alongwith OR1 and OR2 at Vizag	Port Modernization	168	VPT	Under Implementation
74	Electrification of VPT railway lines 45.143 TKM	Port Connectivity	20	VPT	DPR Prepared
75	Direct connectivity to Mindi Yard from E.Co. Railways- SC Railways	Port Connectivity	45	VPT	DPR Prepared
76	Setting up of FSRU in the Outer Harbour for LNG	Port Modernization	200	VPT	DPR Prepared
77	Cruise-cum-coastal cargo terminal	Port Modernization	77	VPT	DPR Prepared

V. CONCLUSION

In conclusion, the Sagarmala Project in Andhra Pradesh stands as a transformative initiative with a strategic vision to propel the state's maritime and economic development. The collaboration among Central Line Ministries, State Maritime Boards, Major Ports, and Special Purpose Vehicles (SPV), with a preference for private sector participation and Public-Private Partnership (PPP) models, underscores a commitment to efficiency and sustainable development. The completion of 36 projects worth Rs. 32,000 crore and the ongoing progress of 77 projects valued at Rs. 91,000 crore highlight the tangible impact of the Sagarmala Programme in Andhra Pradesh.

As these projects contribute to the modernization of existing ports, development of crucial infrastructure, and the establishment of technology centers, they not only foster economic growth but also position the state as a key player in India's maritime landscape. The focus on private sector engagement aligns with the broader goal of fostering economically viable and sustainable projects.

VI. REFERENCES

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