FORM-I
(SeeRule3(1)(a))

NOTICE OF PUBLICATION OF DRAFT MASTER PLAN UNDER SECTION 7(1) OF THE REGULATION

NOTIFICATION

No.....F.No TP-22/CE/2026/ In pursuance to the powers conferred under sub-section (1) of section 7 of the Andaman and Nicobar Islands Town and Country Planning Regulation, 1994 (No.7 of 1994), the Draft Master Plan for Great Nicobar Island Development Area is hereby published and the notice is given that a copy of the said Draft Master Plan is available for inspection at the following offices apart from the office of the Town Planner, during the office hours on all working days:-

1. The Office of the Assistant Commissioner, Campbell Bay, Great Nicobar Island.
2. The Office of the ANIIDCO Limited, Vikas Bhawan, Sri Vijaya Puram.

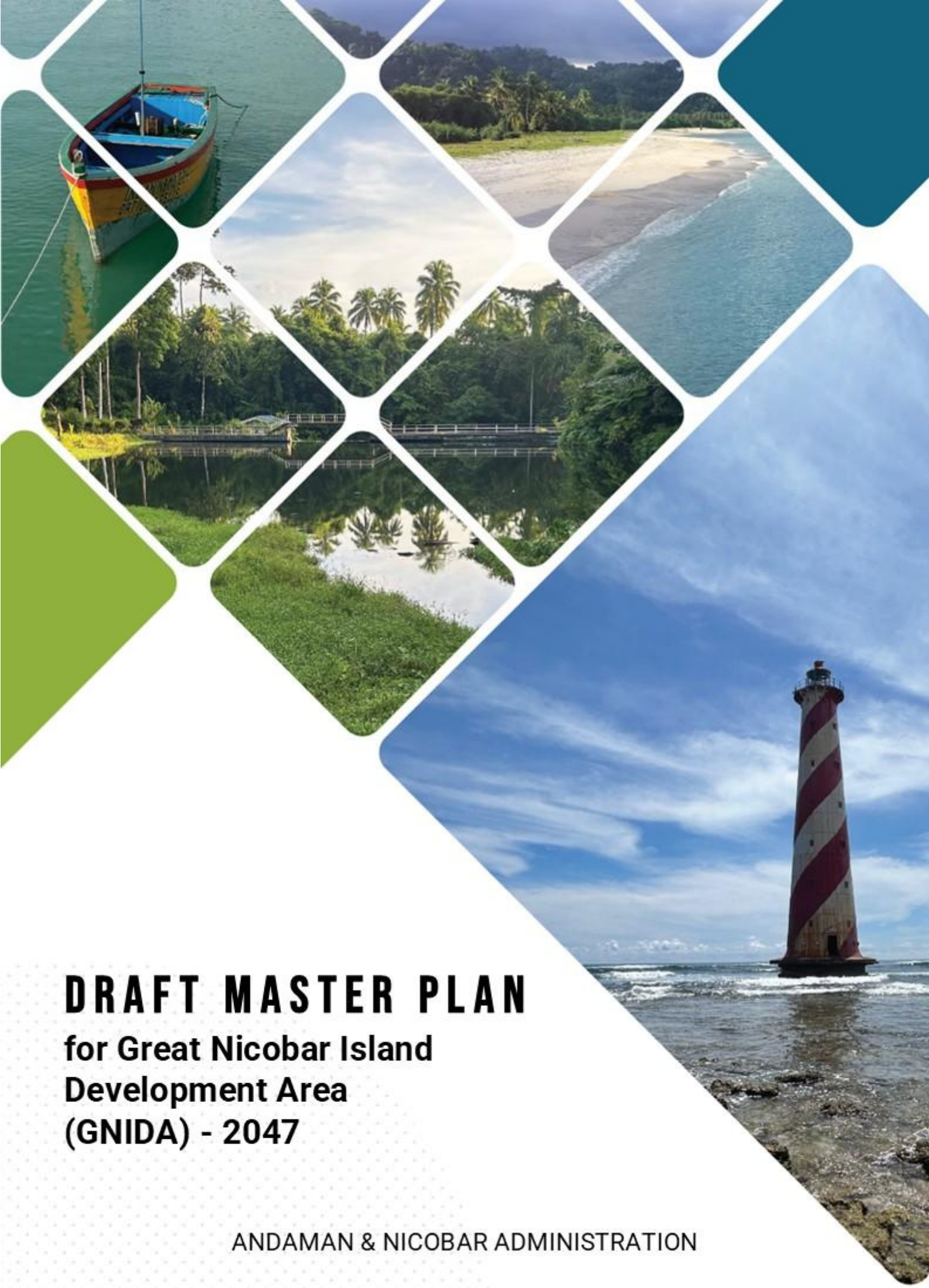
The particulars of the said Draft Master Plan for Great Nicobar Island have been specified in the schedule below:

If any individual or any department or anybody has any objection or suggestion with respect to the Draft Master Plan for Great Nicobar Island Development Area, the same should be sent to the Town Planner, Office of the Chief Engineer, Andaman Public Works Department, Nirman Bhawan, Andaman and Nicobar Administration, Sri Vijaya Puram before the expiry of thirty days from the date of publication of this notice. The objections/suggestions may also be submitted by email to tcpdtcp@gmail.com

SCHEDULE

1. The Existing Land Use Map;
2. The Proposed Land Use Map;
3. A copy of the report of the Draft Master Plan for Great Nicobar Island Development Area containing
   a) A narrative report, supported by maps and charts, explaining the provisions of the Draft Master Plan;
   b) The phasing of implementation of the Draft Master Plan;
   c) The provisions for enforcing the Draft Master Plan and stating the manner in which permission for development or construction or reconstruction may be obtained;
   d) An approximate cost of the land acquisition for public purposes and the cost of works involved in implementation of the Draft Master Plan;
   e) Priorities for various Projects of Master Plan and Role assigned to various agencies in the implementation of the Master Plan.

Town Planner,
Andaman and Nicobar Administration,
Sri Vijaya Puram



DRAFT MASTER PLAN

for Great Nicobar Island Development Area (GNIDA) - 2047

ANDAMAN & NICOBAR ADMINISTRATION

Draft Master Plan For
Great Nicobar Island (GNI)
Development Area – 2047

Andaman & Nicobar Administration

Sri Vijaya Puram, Andaman & Nicobar Islands

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List of Abbreviations

AC	-	Assistant Commissioner
A&NI	-	Andaman & Nicobar Islands
AAJVS	-	Andaman Adim Janjati Vikas Samit
ANIIDCO		Andaman and Nicobar Islands Integrated Development Corporation Limited
APWD	-	Andaman Public Works Department
BGS	-	Biomass Gasification System
BRO	-	Border Roads Organization
BRT	-	Bus Rapid Transit
BSI	-	Bureau of Indian Standards
BWS	-	Bio-Medical waste
C&D	-	Construction and Demolition
CDSBE	-	Circular development with Sustainable built environment
CEA		Central Electricity Authority
CEPT	-	Centre for Environmental Planning and Technology Trust
CGWB	-	Central Ground Water Board
CPEEHO		Central Public Health & Environmental Engineering Organization
CWR	-	Clear Water Reservoir
DDMP	-	Draft Detailed Master Plan
DGS	-	Diesel sets
DRB	-	Disaster resilient Building/development
DRM	-	Disaster Risk Management
DU	-	Dwelling Unit
EDB	-	Electronic Display Boards
EDL	-	Electricity Department of Lakshadweep
ESZ	-	Eco Sensitive Zones
FC	-	Forest Clearance
FFEWS	-	Flood Forecasting and Early Warning System
GHG	-	Green House Gas
GIS	-	Geographic Information Systems
GNBR	-	Great Nicobar Biosphere Reserve
GNI	-	Great Nicobar Island
GOI	-	Government of India
HEC	-	Hydrologic Engineering Center
HH	-	Households
HSDI		Holistic and Sustainable Development of Islands
HTL	-	High Tide Line
ICRZ	-	Island Coastal Regulation Zone
ICTP	-	International Container Transshipment Port
ICZMP	-	Island Coastal Zone Management Plan
IIFM	-	International Institute of Financial Markets

IW	-	Industrial waste
LULC	-	Land Use Land Cover
MoEF&CC	-	Ministry of Environment, Forest and Climate Change
MoM	-	Minutes of Meeting
MSW	-	Municipal Solid waste
MW	-	Mega Watt
NBS	-	National Broadcasting Company
NCSCM	-	National Centre for Sustainable Coastal Management
NDZ	-	No Development Zone
NGT	-	National Green Tribunal
NMT	-	Non-Motorized Transport
NSUB	-	Nature Sensitive Urban Planning
NUTP	-	National Urban Transport Policy
PEDR	-	Preliminary Engineering Design Report
RAS	-	River Analysis System
RCE	-	Robust Circular Economy
RfP	-	Request for Proposal
RO	-	Reverse Osmosis
SACON	-	Salim Ali Centre for Ornithology and Natural History
SHED		Sustainable and High-end Eco-tourism Destination
STP	-	Sewage Treatment Plant
TERI	-	The Energy and Resources Institute
TOD	-	Transit Oriented Development
TCS	-	Typical Cross Section
UNESCO		United Nations Educational, Scientific and Cultural Organization
UT	-	Union Territory
WCP	-	Wildlife Conservation Plan
WII	-	Wildlife Institute of India
WTP	-	Water Treatment Plant

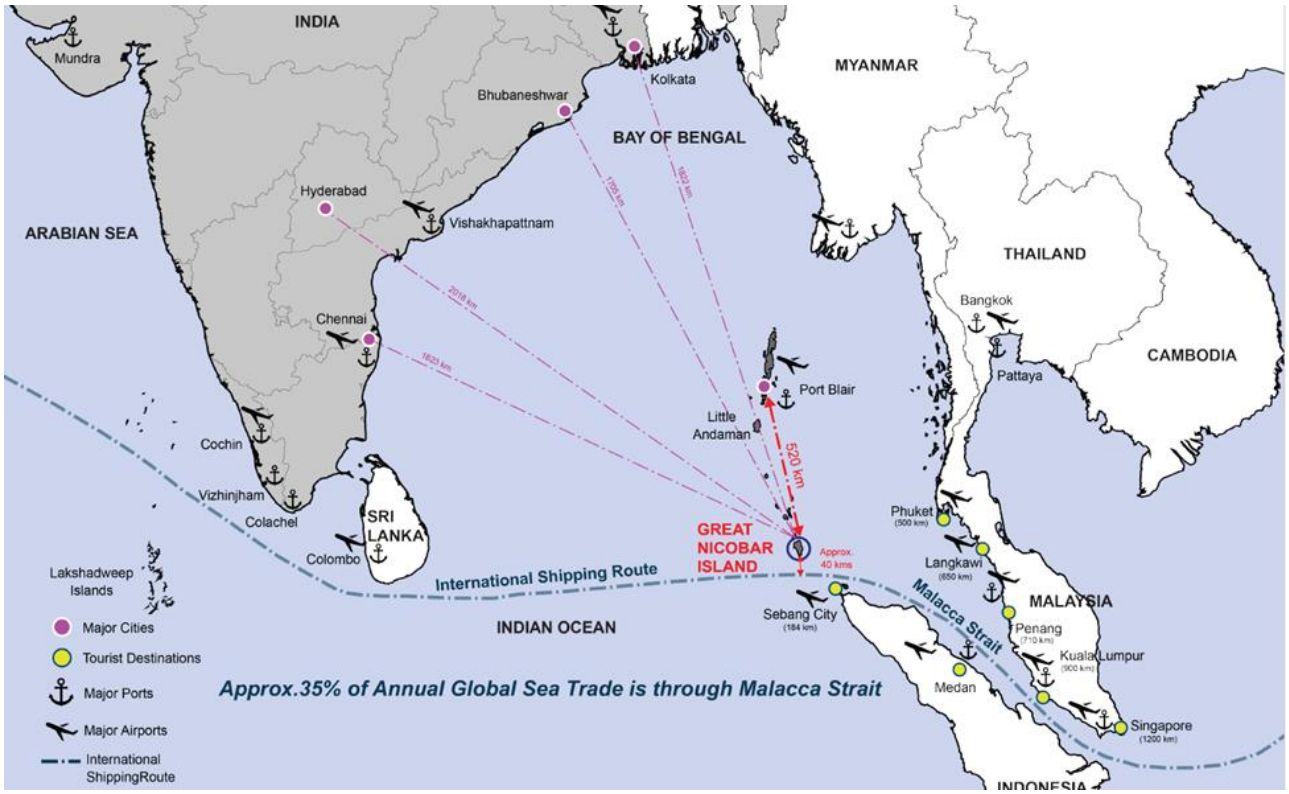
1 GREAT NICOBAR ISLAND: AN OVERVIEW

1.1 Development Vision for Great Nicobar Island

The Indian Ocean Region (IOR) which in general and the Indian Ocean in particular, has turned into a hotspot in recent years due to its strategic importance. The IOR is important both from the perspective of global trade and commerce due to the international transshipment route and geo-political concerns as various countries are making efforts towards building presence in this region. Thus, in response to the increasing strategic value of this IOR, a critical mass of development in the Andaman & Nicobar Islands is necessary for strengthening India's regional presence and for maritime trade and security of the country.

Great Nicobar Island, the southernmost landmass of India and largest of the Nicobar Islands chain, extends from Ranganatha Bay on the northeast of the island southwards to Galathea Bay and Indira Point. The island of Sumatra (Indonesia) is located only 180 km to the south of Indira Point. The island has a very strong geo-strategic importance in context of the national sovereignty and security, as well as economic importance due to its proximity to the international transshipment route linking East Asian exports with the Indian Ocean, Suez Canal, and Europe. Vibrancy in GNI supported with strong base of tactical infrastructure is a key to enhanced participation of India in the global shipping trade, creating employment opportunities for its citizens and improving the quality of life for current and future residents of the island.

FIGURE 1-1: REGIONAL CONTEXT OF GNI



(Source: Concept Master Plan Report – NITI Aayog)

GNI lies just 40 km north of the east-west shipping route and this strategic location presents immense opportunities to further strengthen India's trading position in the World. Establishing a transshipment hub at GNI would help the country in achieving trade security with reduced dependency on other ports including Singapore, Colombo and Port Klang, economic integration with neighboring countries, reduced shipping costs, boosting exports, and attracting foreign direct investment. In this context, the Government of India has decided to build the ICT Port at GNI. The proposed ICT Port would generate a demand for several other functions and activities to support the transshipment operations such as maritime financing, banking, insurance, legal/audit services, fintech, shipping lines & feeder operator services, trading etc. This would generate demand for office and commercial spaces which would need to be supported with residential and other amenities.

The Great Nicobar Island has nearly 80.52% of island area (732.79 sq.km) falling under the Biosphere Reserve. This was included in the World Network of Biosphere Reserves as part of the Man and Biosphere Programme of UNESCO in 2013 to promote sustainable development based on local community effort and science. The Great Nicobar Biosphere Reserve also witnesses the presence of diverse wildlife on the island which presents an opportunity for nature-based tourism. However, the protection of wildlife species and their habitat would need to be ensured. The presence of unique forms of corals in abundance around the island makes it a great attraction for tourists looking to dive into the waters.

Covered with dense tropical evergreen forests, GNI has a unique biodiversity including a variety of flora and fauna, undulating terrain, perennial rivers and deep inlets and creeks formed by submerged valleys. It offers a host of forest systems, ranging from seasonal rainforests in the low hills, tropical mountain forests, riverine forests, orchids and moist deciduous forests. The eco-sensitive forest area in the central core in its virgin state, with rich species diversity, needs to be preserved. By virtue of the presence of pristine virgin sandy beaches, scenic hills with green forest covered mountains and farmlands with coconut plantations along the coastline, makes GNI as a unique seaside destination to relax and enjoy in an unexplored exquisite environment. The new unseen environment can be explored by enthusiasts and tourists which provides a great opportunity for promoting programs like adventure tourism, MICE tourism etc. The uncontaminated and green environmental setting on the island makes it a potential destination for retreat and rejuvenation tourism.

The close proximity of GNI to international tourist island destinations like the upcoming Senang City, the Phuket Island and Langkawi Island presents a great opportunity for a tourism-oriented island development that would put GNI on the global tourist destinations map. To achieve the vision of transforming GNI into a global destination, it is imperative to improve its connectivity to the Indian mainland and other cities of the world, which is limited at present. The Government of India has initiated the process for setting up an international greenfield airport at GNI to cater to the strategic needs of security in the Indian Ocean Region and the improved connectivity of GNI with mainland and rest of the world.

The Government of India in recent years has started exploring both offshore and onshore potential, with major government initiatives targeting minerals, hydrocarbons like crude oil, natural hydrogen and natural gas in the Andaman-Nicobar basin. This would help in developing a sustainable clean

energy source in the region. GNI could also become one of the potential base to support such activities.

The unique setting of island also opens up large opportunities for attracting research and development institutions to setup their institutions for certain niche areas like marine sciences, biodiversity, and other scientific institutions.

Under the 'Holistic and Sustainable Development of Islands' initiative, the Government of India (GoI) has proposed Great Nicobar Island to be developed within Andaman and Nicobar Islands by establishing a new 'Greenfield Coastal City' for its strategic location. The major interventions proposed as part of this initiative include setting up an ICTT Port, International Airport, Gas based Power Plant, and strengthening the Defence infrastructure. The government driven interventions with added advantage of the eco-coastal uniqueness of GNI would attract tourists and people to come and settle in GNI for economic opportunities. These interventions would require opening up of the island for development of land, infrastructure, housing and supporting amenities to accommodate influx of tourists and settlers. The opening of land for development would need to be taken up in a very judicious manner, especially considering the limited availability of developable land and environmental sensitivity of GNI. In this context, a Master Plan needs to be prepared to promote development aligned with social, economic and environmental sustainability for making GNI as a unique township for attracting people and investment.

1.2 History & Settlement of GNI

The Nicobar Islands are an archipelagic island chain in the eastern Indian Ocean located approximately 1,300 km southeast of the Indian subcontinent, across the Bay of Bengal and form part of the Union Territory of Andaman and Nicobar Islands, India. Great Nicobar is the southernmost land mass of the Nicobar group of Islands.

The islands are believed to have been inhabited for thousands of years by indigenous tribes. Historical accounts from European, Chinese, and Arab travellers, along with Indian inscriptions, indicate that the name "Nicobar" originates from a term meaning "land of naked people." The original inhabitants include the Shompens, who live in the dense interior forests, and the Nicobarese, who reside along the coasts. Historically, the islands were frequently visited by outsiders, including explorers on their way to Malacca and traders seeking food and water during adverse weather. During the Chola Dynasty, the Andaman and Nicobar Islands were used as a strategic naval base to launch expeditions against Sriwijaya Empire (Indonesia). Other notable visitors included Captain Dampier (1688), two French Jesuits, Faure Taillandiers (1711), and Danish Admiral Steel Billi (1756). Admiral Billi conducted extensive exploration in the 19th century, searching for minerals and gold, and named locations such as Campbell Bay, Pygmalion Point, Copenheat, and Galathea. He also established contact with the indigenous populations in 1846. In 1868, an Austrian expedition was made to Great Nicobar Island to survey the west coast. Due to limited access to the island, very little information was available even by the end of 19th century.

Great Nicobar Island was neglected for a long period of time. Being a tribal area, even after independence of India tourists and travelers were not allowed to go beyond Car Nicobar. However, the importance of GNI was soon realized by Government of India. The Government paid attention to the Island, for the safety and security of the country as the poachers had started entering these islands. The significance of safeguarding and defending the border had become more essential.

Thus, it was decided by the Government of India to settle Ex-Servicemen here. It was decided to induct one thousand families of ex-servicemen from Punjab under a pilot project. To fulfil this proposal, Directorate of Settlement of the Ministry of Defence stepped in for the selection of Ex—Servicemen. 69 families of Ex-servicemen from Punjab were the first families to settle in April 1969 followed by 31 families in 1970. Subsequently, Ex-Servicemen from different parts of the country like Maharashtra, Kerala, Tamil Nadu, Karnataka, Uttar Pradesh, Madhya Pradesh, Haryana, etc. were settled in 1974, 1977, 1979 and 1980. Thus, total of 330 families of ex-servicemen from different states were inducted and 265 families remained in the project. During 1971 and 1973, 11 fishermen families from Andhra Pradesh were inducted. Thus, a Mini-India exists in Great Nicobar Island, with people from all parts of the country harmoniously residing here with the indigenous Nicobarese and Shompen tribes. For settlement purposes as well as for other developmental activities including setting up of defence organizations, the forests on the island were cleared. During the late 1970's and 1980's, occasional agriculture was carried out, mostly by private individuals for domestic requirements.

1.3 Administrative Structure of Andaman & Nicobar Islands

As per the Constitution of India, the Andaman and Nicobar Islands were designated as the only part D territory in 1950, to be administered by a lieutenant governor appointed by the Government of India. For administration purposes, the Union Territory has been divided into 3 Districts i.e. the Districts of South Andaman, North & Middle Andaman and Nicobar. The 3 districts are further sub-divided into 3 tehsils each, as indicated below:

TABLE 1-1 : ADMINISTRATIVE DISTRICTS, DISTRICT HEAD QUARTERS & TEHSILS

District	District Head Quarters	Tehsils
North & Middle Andaman	Mayabunder	Diglipur
		Mayabunder
		Rangat
South Andaman	Sri Vijaya Puram	Sri Vijaya Puram
		Ferrargunj
		Little Andaman
Nicobar	Car Nicobar	Car Nicobar
		Nancowry
		Great Nicobar

(Source: Official website of Government of Andaman & Nicobar Islands)

Additionally, being a Union Territory, there exists a separate parliamentary constituency and a three tier Panchayat Raj system to look after developmental activities and assist in the administration in the island.

1.4 Land under Great Nicobar Island

The GNI land comprises of the land under 7 revenue villages admeasuring 44.23 sq.km (excluding 1.07 sq.km of land lost to sea erosion) and reserved/ protected forest land with an area of 865.844 sq.km. Thus, the total area of GNI is 910.074 sq.km. The details of revenue and forest lands are given below:

1.4.1 Revenue Land

The 7 revenue villages are located along the east coast of the island. The list of villages from north to south is given below:

1. Campbell Bay (headquarters where most of the Government offices are situated)
2. Govind Nagar
3. Joginder Nagar
4. Vijay Nagar
5. Laxmi Nagar
6. Gandhi Nagar
7. Shastri Nagar

These revenue villages, except Campbell Bay, form the only developed part of the island with low-density settlements supported with some commercial and community facilities, surrounded by land under horticulture and agricultural use. These revenue villages also have land under deemed forest. Campbell Bay, the largest village in the island, provides a reflection of some form of urban character with over 75% of the island population concentrated in this village. The connectivity to the island through jetty and the airstrip is also situated in this area. It also has a concentration of administrative offices as well as defence establishments and the major facilities for the island are concentrated in this area itself.

The total area under these 7 villages is 45.3 sq.km, including 8.88 sq.km of land under deemed forest. Out of the remaining 36.42 sq.km of land, about 1.07 sq.km of land in these villages has been lost due to sea erosion and excluded from the notified project area boundary. Accordingly, the remaining 35.35 sq.km of revenue land and 8.88 sq.km of land under deemed forest in these villages is proposed to be included as part of the GNI Development Area. The village wise area for the 7 revenue villages falling within the GNI Development Area based on the reconciliation of the census 2011 data and the area of revenue villages as per the GIS- based revenue maps is given in Table 1-2 below:

TABLE 1-2: AREA DETAILS OF REVENUE VILLAGES BASED ON RECONCILIATION

Village	Area (sq.km)
Campbell Bay	
Govind Nagar	7.47
Joginder Nagar	8.39
Vijay Nagar	7.94
Laxmi Nagar	4.29
Gandhi Nagar	5.60
Shastri Nagar	3.10

(Source: GIS Cell, Revenue Department)

1.4.2 Land under Forest Cover and National Parks

1.4.2.1 Forest & Biosphere Reserve

The Great Nicobar Island is covered with unique dense tropical evergreen forests, including a host of forest systems, ranging from seasonal rainforests in the low hills, tropical mountain forests, riverine forests, orchids, and moist deciduous forests as well. Except for the revenue area, the rest of the island is under forest cover at present—mostly concentrated in the north, west, and south of the island. The forests spread across an area of 865.844 sq.km. on the island, covering almost 95% of the island area. There is a presence of mangroves concentration mostly on the western coast of the island. The eco-sensitive forest area in the central core region of the island is still in its virgin state and rich in species diversity and thus is to be preserved.

The Great Nicobar Biosphere Reserve (GNBR) was established/declared on 6th January 1989 by the Government of India. It covers an area of about 732.798 sq.km. and occupies approximately 80% of the Great Nicobar Island. The GNBR is home to many unique endemic species of plants and animals and has a core area and buffer area. As per MOEF&CC (letter No. J-22010/14/89-CSC to Chief Secretary, A&N administration dated 13th January 1989), the core area of this Biosphere Reserve is to be kept undisturbed, except for any existing settlements. In the buffer area of the GNBR, few activities may be permitted in conformity with the general guidelines of the Biosphere Reserve.

1.4.2.2 National Parks & ESZ & Wildlife Sanctuaries

Great Nicobar Island has presence of two National Parks:

- Campbell Bay National Park (declared on 22nd November 1996)
- Galathea National Park (declared on 28th November 1996)

As per MOEF&CC Notification of 12th March 2021, there are Eco-sensitive zones (0-1 km extent) demarcated around these national parks as follows:

- Campbell Bay National Park Eco-Sensitive Zone
- Galathea National Park Eco-Sensitive Zone

The notifications elaborate on the vegetation, wildlife, rivers, tribal heritage, etc. There are no revenue areas within these eco-sensitive zones.

1.4.2.3 Tribal Area

There is the presence of a Tribal Reserve spreading across an area of 751.07 sq.km. on Great Nicobar Island, which occupies almost 82% of the island area. Out of the total area proposed for development measuring 166.10 sq. km, only 84.10 sq. km falls within the Tribal Reserve. Around 11.03 sq.km. of this tribal reserve area also falls within revenue villages (Shastri Nagar, Gandhi Nagar and part of Laxmi Nagar) as illustrated in Figure 1-2. Thus, the remaining area of 73.07 sq. kms of forest land is being de-notified for the purpose of this project. To compensate for the same, an area measuring 76.96 sq. km of land outside the GNI development area is being re-notified as tribal reserve. [1]

The two indigenous tribes- the original inhabitants of Great Nicobar namely the Shompens and Nicobarese reside here. The Great Nicobar Island is a perfect example of unity in diversity. The assimilation of settlers with each other and with the environment makes this place a unison of ideologies, lifestyles, languages and culture.

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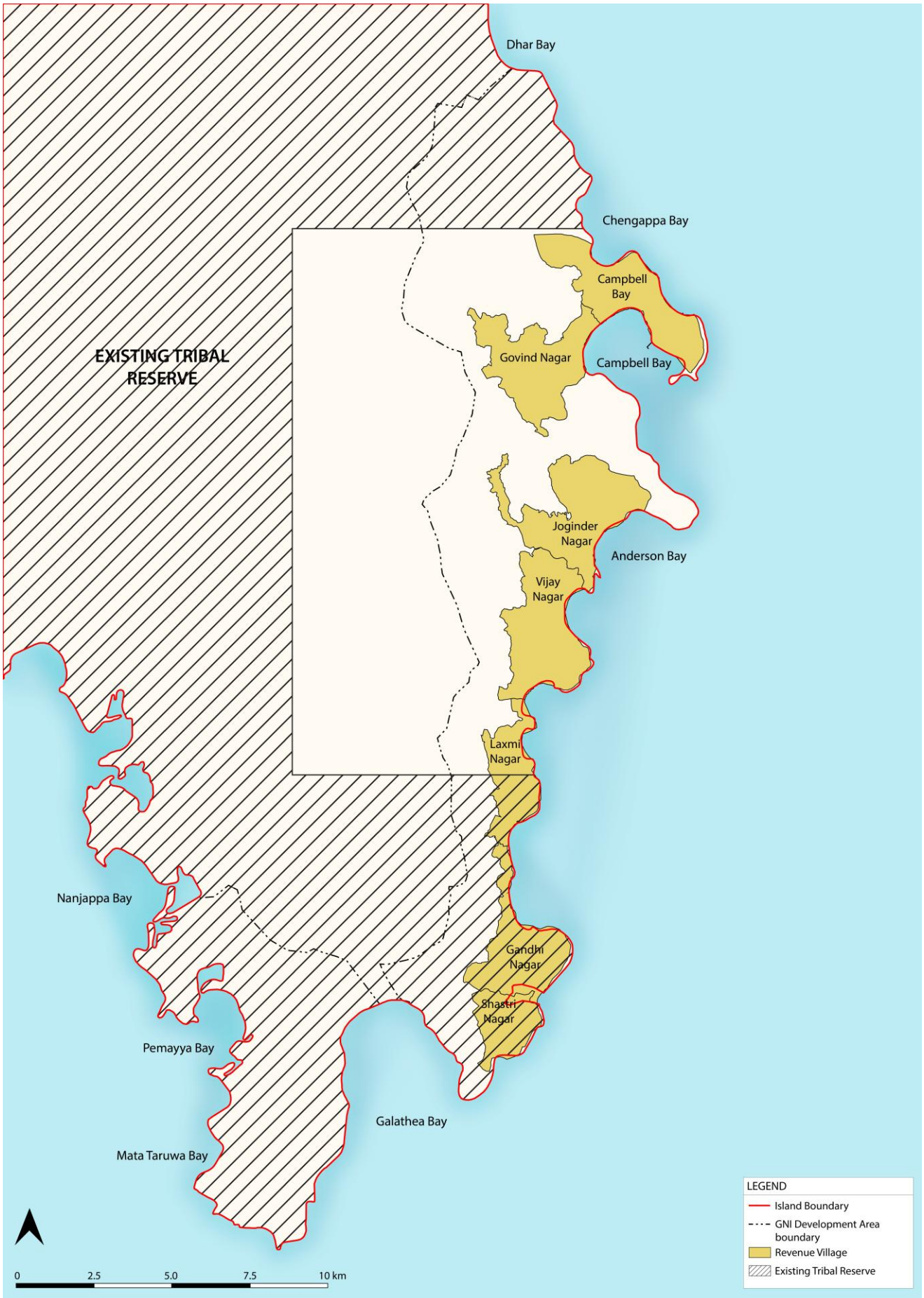
[1] *Record of proceedings of the First meeting of Empowered Committee to consider denotification of Tribal Reserved area for Sustainable Development of Great Nicobar Island.*

FIGURE 1-2: EXISTING TRIBAL RESERVE



(Source: Consultant's Analysis)

2 DEVELOPMENT AREA PROFILE

2.1.1 Land under GNI Development Area

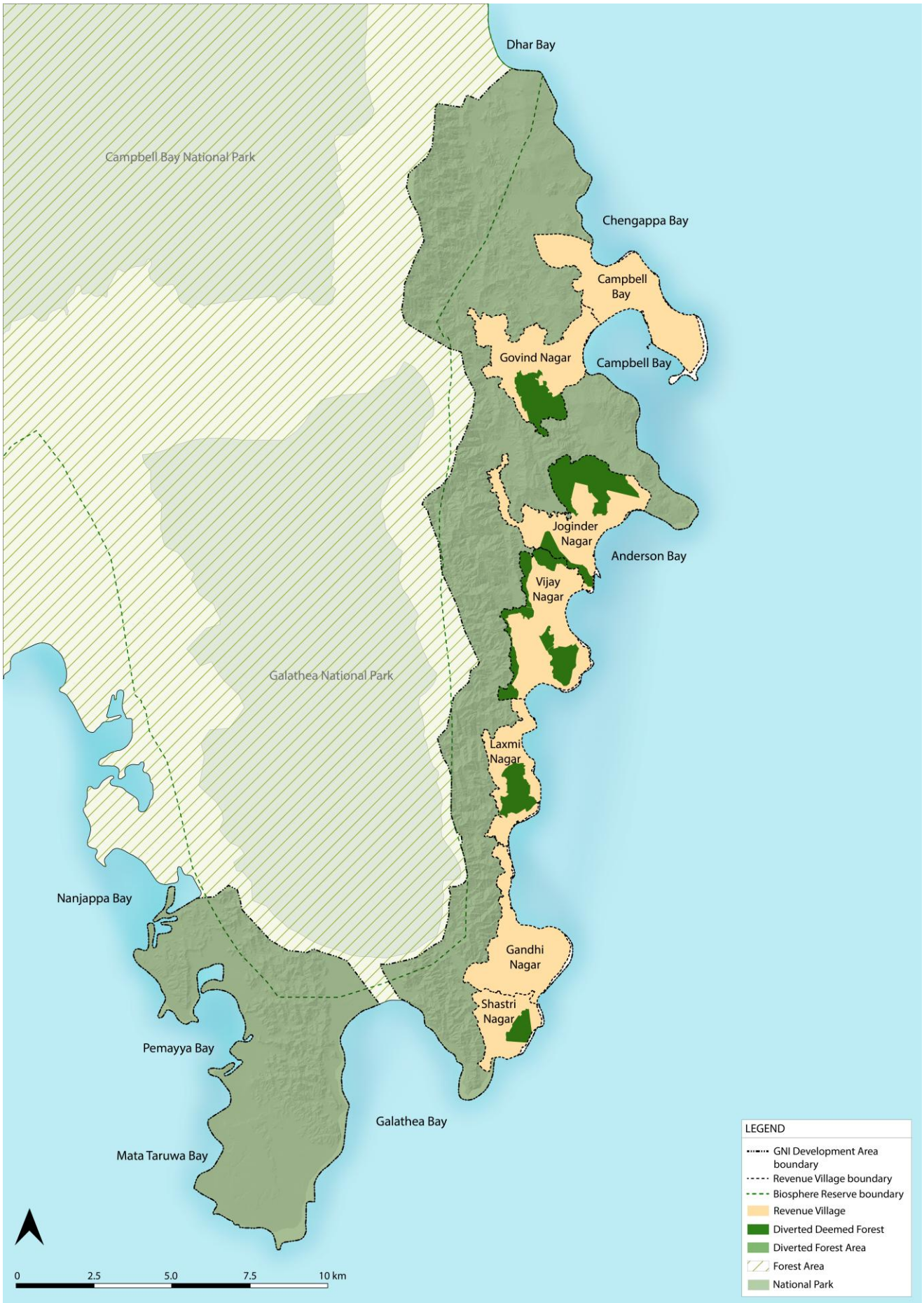
GNI Development Area admeasuring 166.10 sq.km comprises of the protected forest land with an area of 121.87 sq.km, 8.88 sq.km of deemed forest land falling within the boundaries of 7 revenue villages and an area of 35.35 sq.km (excluding deemed forest and revenue area lost to sea erosion/ falling outside the delineated boundary for GNI project) within the administrative jurisdiction of these 7 revenue villages. The proposal for diversion of 130.75 sq.km of forest land (including the protected forest land with an area of 121.87 sq.km and 8.88 sq.km of deemed forest land under the jurisdiction of 7 revenue villages), under Section-2 (ii) of Forest (Conservation) Act, 1980 in favour of Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO), for sustainable development in GNI, was submitted to the Government of India vide Andaman & Nicobar Islands Administration's letter No. PCCF/FCA/325/Vol II/249 dated 07.10.2020. The proposal was examined by the Forest Advisory Committee constituted by the Central Government under Section-3 of the FCA Act, 1980.

There is also the presence of a Tribal Reserve spreading across an area of 84.10 sq.km. in the 166.1 sq.km. area, which occupies 50.63% of the project area. Around 11.032 sq.km. of this tribal reserve area also falls within the revenue villages (Shastri Nagar, Gandhi Nagar and part of Laxmi Nagar) and the rest which overlaps with the forest land area. As per the minutes of First Meeting of Empowered Committee held on 30th September 2020 at Secretariat Sri Vijaya Puram, this area of 84.10 sq.km. of tribal reserve is to be considered for denotification. Based on the recommendations of the Forest Advisory Committee and careful examination of the proposal, the Competent Authority in the Ministry accorded its In-principal approval/ Stage-I Clearance for diversion of 130.75 sq.km of forest land for sustainable development in GNI vide letter no. 8-22/2020-FC dated 27th October, 2022 of the Government of India, Ministry of Environment Forest and Climate Change (Forest Conservation Division). The In-principal approval/ Stage-I clearance has been accorded with the conditions stipulated in the letter of MoEF & CC, cited herein above.

Some of the key conditions outlined in the approval are mentioned below:

- Out of the total area proposed for diversion, 65.99 sq. km area will be the area for the Green development where no tree felling is envisaged. In exceptional cases if trees are required to fell in this area, separate permission for tree felling shall be obtained from the Department of Forest Andaman and Nicobar Administration.
- It is proposed to declare 45.23 Sq Kms of the area of the National Park as a Tribal Reserve. The UT administration shall ensure that the same is not contrary to and against the provisions of the Wildlife Protection Act,1972.
- The layout plan of the proposal shall not be changed without the prior approval of the Central Government and the forest land shall not be used for any purpose other than that specified in the proposal.

FIGURE 2-1: LAND UNDER GNI DEVELOPMENT AREA



(Source: Consultant's Analysis)

2.2 Climate

The climate of the island is humid-tropical, with prolonged monsoon from April to December, and hot and humid weather during January to March. Temperatures typically range from 25°C to 32°C, and in Great Nicobar, average annual rainfall is substantial, ranging from 3,000 to 3,500 mm, with humidity levels between 66% and 85%. The winter season in the region starts from December and continues till the end of February. January and February are the coldest month with the mean daily maximum temperature of 31.7°C with the mean daily minimum temperature of 18.8°C.

Rainy season last for 180 days influenced by southwest monsoon during mid-May to end of September and under northeast monsoon during November to January. The average annual rainfall in the region based on IMD data is 2790.7 mm. The southwest monsoon generally sets in during the last week of May. About 30.9% of the rainfall is received during the southwest monsoon. The rainfall gradually increases after July. The northeast monsoon sets in the month of October and contributes to the rainfall by about 52.5% of the total rainfall. The maximum number of rainy days occur in the months of October and then in November. Additional information about the climate of Nicobar district can be derived from the table below:

TABLE 2-1: CLIMATOLOGICAL CONDITIONS - IMD CAR NICOBAR (1971-2000)

Month	Atmospheric Pressure (mb)		Temperature (C)		Relative Humidity (%)		Rainfall (mm)
	8:30	17:30	Max	Min	8:30	17:30	8:30
January	1011.2	1008.5	31.7	18.8	75	79	49.2
February	1010.9	1008.2	32.1	18.2	73	77	38.9
March	1010.3	1007.6	33.1	18.5	72	76	45.9
April	1009.2	1006.4	34.1	20.2	73	78	121
May	1007.8	1005.5	33.7	21.1	81	84	378.3
June	1007.1	1005.3	32.6	21.1	83	85	287
July	1007.2	1005.4	32.4	21.7	83	85	327.9
August	1007.9	1005.9	32.1	21.2	84	85	287.6
September	1008.8	1006.4	31.9	20.7	84	87	405
October	1009.5	1007	32.1	20.4	83	88	327.6
November	1010	1007.5	31.8	20	80	85	338.1
December	1011	1008.5	31.6	19.5	77	81	184.2
						Total Rainfall	2790.7

(Source: Climatological Tables of IMD-Car Nicobar)

2.2.1 History of Disasters in GNI

On December 26, 2004, a catastrophic earthquake with a magnitude of 9.3 struck the Andaman and Nicobar Islands, triggering a tsunami that affected 12 countries. The epicentre was located at 3.7° N and 95° E, at a depth of 30 km off the coast of Sumatra, Indonesia, just 163 km from Great Nicobar, the southernmost island. Due to its susceptibility to high-intensity seismic events, the island is classified as Seismic Zone V according to IS 1893-1984. The earthquake and tsunami caused severe damage to the life and property in the island. The maximum damage was done in the Southern group of islands where about 10,000 houses were fully damaged and more than 3,500 people lost their lives. Damage occurred to the infrastructure systems, ports, roads, bridges etc. Many earthquakes

and floods occurred in A&N Islands above 4.5 magnitude. 4 earthquakes have taken place in this year 2024.

2.3 Physical Features

2.3.1 Physiography

The physiography of Great Nicobar Island is characterized by undulating terrain, indicating a series of rolling hills and valleys across the landscape. The primary ridges on the island run in a north-south direction, suggesting a geological alignment that influences the overall topography. The general slope of the land is towards the south/ south-west direction. Mount Thullier, which is part of this range, has the highest elevation of any point in the Nicobar, at 642 m above sea level. The hill is thought to have arisen due to tectonic activity in the region. Coral reefs can also be found surrounding most of the Island. The slope analysis for the GNI Development Area has been carried out, as depicted in Figure 2-2. The eastern and southern side of the island includes mostly flat land (0-100 MSL range) sloping towards the coast, with few hillocks. Here there is habitation (revenue villages) and plantations of coconut, spice, vegetables, etc. Towards the west of this habitable area is a hilly terrain of undulating landform- a main ridge/hill range running right from Mount Thullier in the north to the south towards Galathea Bay and is covered with dense forests. There are two other prominent ridges running from northeast to the west in the Campbell Bay National Park. The area analysis with regard to the slopes in GNI Development Area is given in Table 1-4 below.

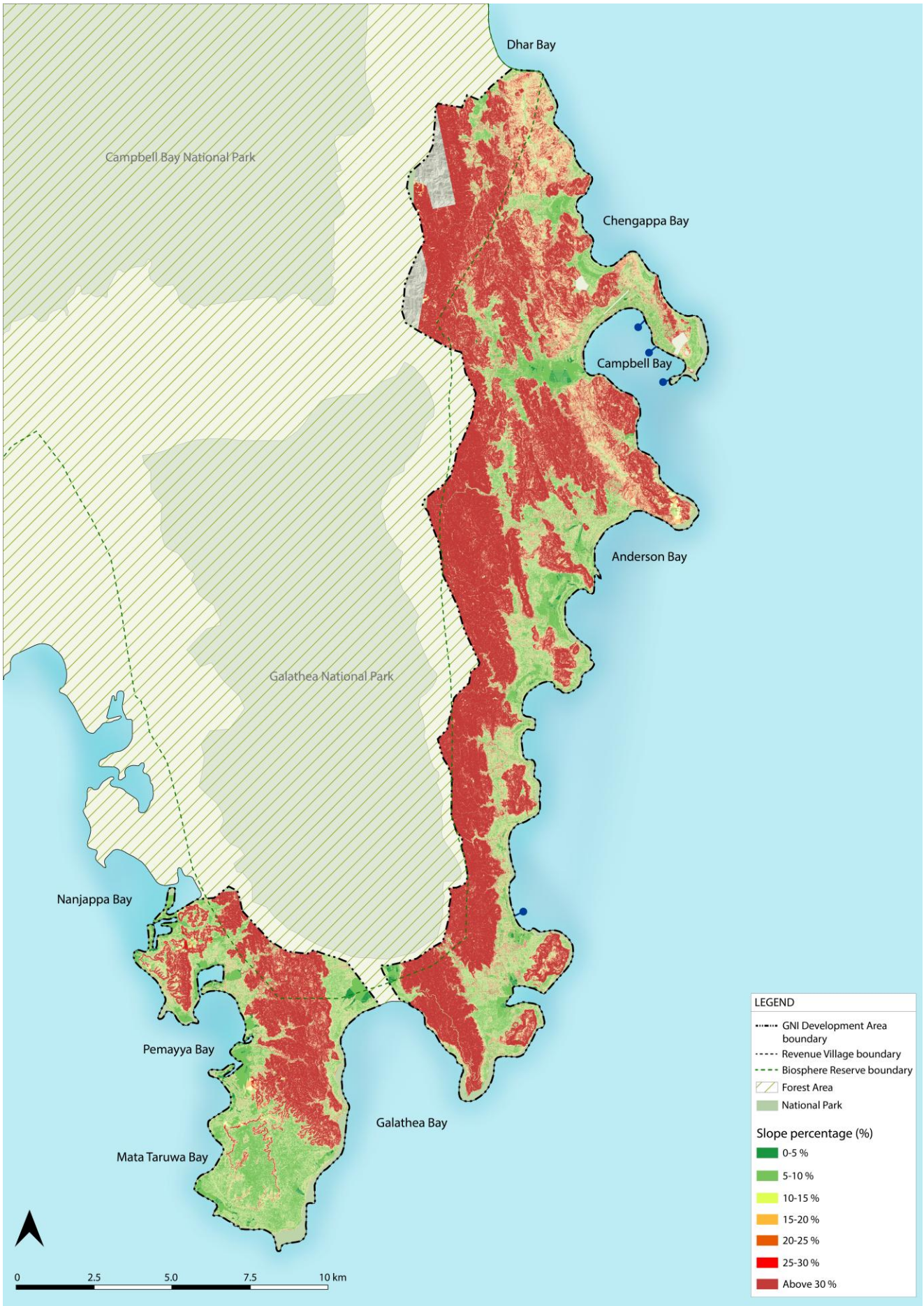
TABLE 2-2 : SLOPE PERCENTAGE TABLE

Percentage Slope	Area
0-5	28.63
5-10	19.35
10-15	12.49
15-20	9.60
20-25	7.93
25-30	7.18
>30	72.75
Data Not Available	8.18
Total	166.10

(Source: Consultant's Analysis)

It can be observed that approximately 28.63 sq. km, constituting about 17% of the total project area, is relatively flat land with a 0-5% slope, presenting relatively easier conditions for construction activities. A good portion of the island, covering about 41.4 sq.km or 25% of the total site area, has a slope ranging from 5 to 20%, indicating moderate to challenging conditions for construction and development. A significant area of about 96 sq. km, representing 58% of the site area, features slope above 20%.

FIGURE 2-2: TOPOGRAPHY MAP



(Source: Consultant's Analysis)

2.3.2 Hydrogeology

The Great Nicobar Islands has five perennial rivers namely, Alexandra, Amrit Kaur, Danes, Galathea and Dogmar. Three of these flow towards the west including Alexandria, Dogmar and Amritkaur; one river flows towards north which is Jubilee; one flows in the southern direction which is the river Galathea and is the largest of the five rivers. The mouth of Galathea rivers opens at the Galathea bay, which is in the southernmost part of the Great Nicobar Island (approx. 41 km from Campbell Bay). There are several small water bodies (e.g. Magar Nala water body) on the island and few salt-water wetlands formed near the beaches/coastline, due to the Tsunami.

The island has several streams/nalas/water channels on the island, flowing through the mountain valleys, some of which are perennial in nature, though due to lack of catchment areas, there is a shortage of water experienced by the inhabitants during summer season. Few of the nalas which are a source of water for the revenue villages are Triveni nala, Pathar nala, Magar nala, Prem Bahadur nala, Dubey nala, Swaroop nala, etc.- which flow from the north-south ridge towards the eastern coast meeting the bays (Campbell Bay, Anderson Bay, Chengappa bay, Galathea bay, etc.).

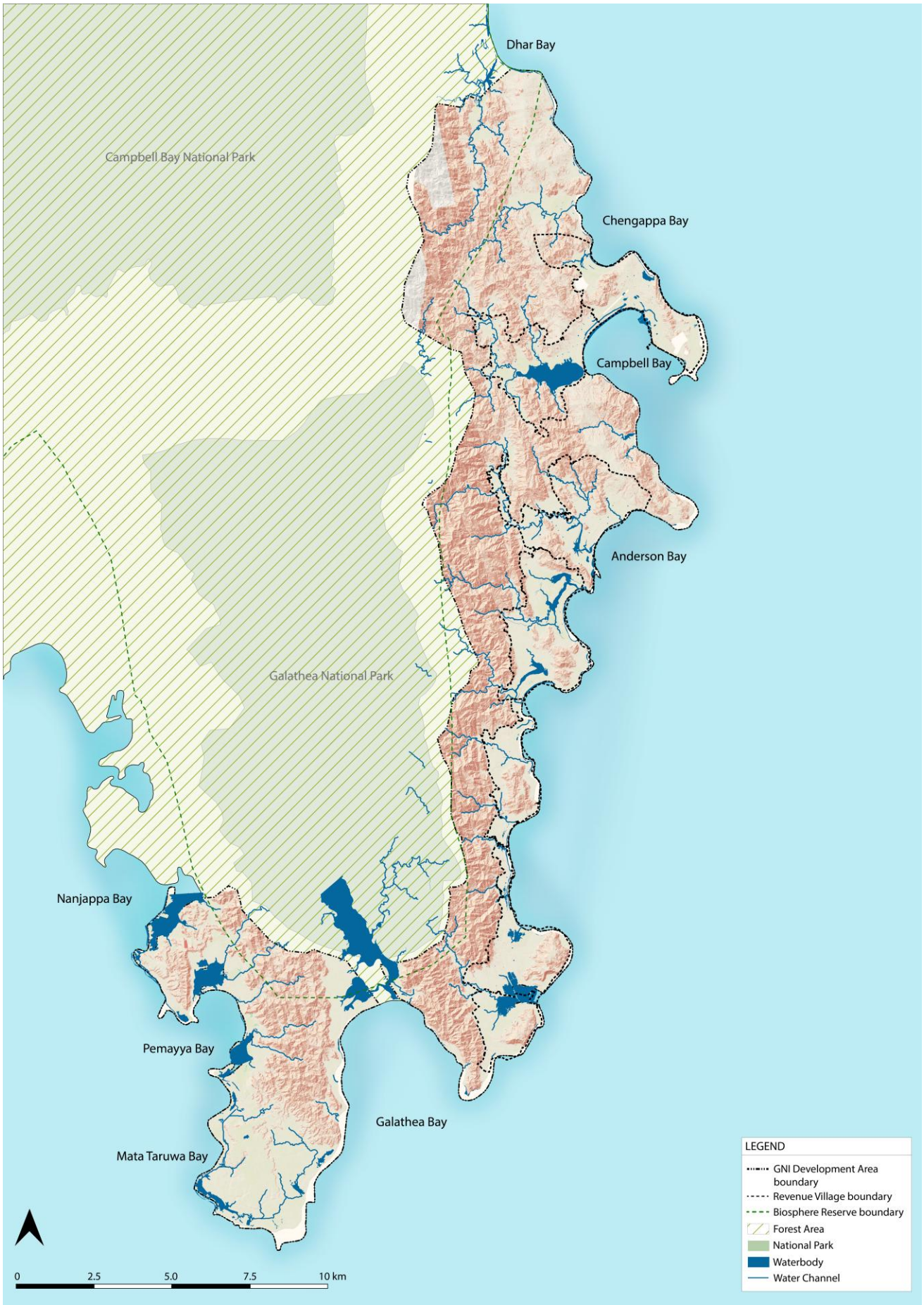
These courses of water channels need to be left undisturbed to the maximum possible, with a strategy developed along these existing drainage channels. Preservation of the river deltas to be taken care of and minimal interference done to these rich ecological assets of the island.

Ground water in marine sedimentary formation occurs under unconfined condition in weathered residuum. Preponderance of clayey mineral renders groundwater development possibility very low. Yield of dug well (5-6 m dia, 6m depth) in marine sedimentary group varies from 4000- 5000 litres/day. Ground water in Ophiolites occurs under unconfined to semi-confined condition in weathered residuum while in fractured hard rock in deeper horizon in confined condition. Yield of dugwell (5-6 m dia, 6 m depth) in Marine sedimentary group varies from 40,000 - 50000 litres/day. The formation is yet to be explored for development in the district. In Coralline limestone in Nicobar group yield of dug well (5-6 m dia, 6 m depth) varies from 1,00,000-1,50,000 litres/day or even high. Springs are profuse in all geological formations. However, springs are sustainable in ophiolite formation and in the limestones of Nicobar group.

The island is underlain by sandstone, silt stone, shale, conglomerate of Mithakhari Group and does not favour good potential of groundwater both in the shallow and the deeper horizon. Because of this the groundwater exploration carried out in the island was not successful. However, coralline formations are available in the coastal area which sustain good groundwater in wells. However, with the subsidence of land to the tune of 1.8 to 2.5 m salinity ingress in subsurface is noticed.

The existing hydrogeology profile within GNI Development Area has been illustrated in Figure 2-3.

FIGURE 2-3: EXISTING HYDROGEOLOGY PROFILE



(Source: Consultant's Analysis)

2.4 Demographic Characteristics

The existing population on Great Nicobar Island is primarily concentrated along the eastern coast, encompassing 7 revenue villages that cover a total area of 45.3 sq.km (which includes 1.07 sq.km of land lost to sea erosion and not considered as part of GNI Development Area). As can be observed from Figure 2-4 and Table 2-3, within these 7 villages, approximately 7,519 individuals reside in 2,054 households, resulting in a population density of around 170 people per square kilometer. Among the 7 villages, Campbell Bay is the most populated, housing 5,736 residents within an area of 7.41 sq.km.

The variations in population density highlights the necessity for strategic infrastructure planning that meets the diverse needs of these communities, encompassing essential services such as education, healthcare, and transportation.

TABLE 2-3 : POPULATION AND DENSITY IN REVENUE VILLAGES OF GNI

Name of Village	Area (sq. km)	Households	Population	Density (persons per sq. km)
Campbell Bay	7.524	1608	5736	762
Govind Nagar	7.501	194	676	90
Joginder Nagar	8.385	208	693	83
Vijay Nagar	8.087	12	100	12
Laxmi Nagar	4.476	13	230	51
Gandhi Nagar	5.995	13	69	12
Shastri Nagar	3.336	6	15	4
Total	**45.30**	**2054**	**7519**	**166**

(Source: Census 2011)

2.5 Literacy

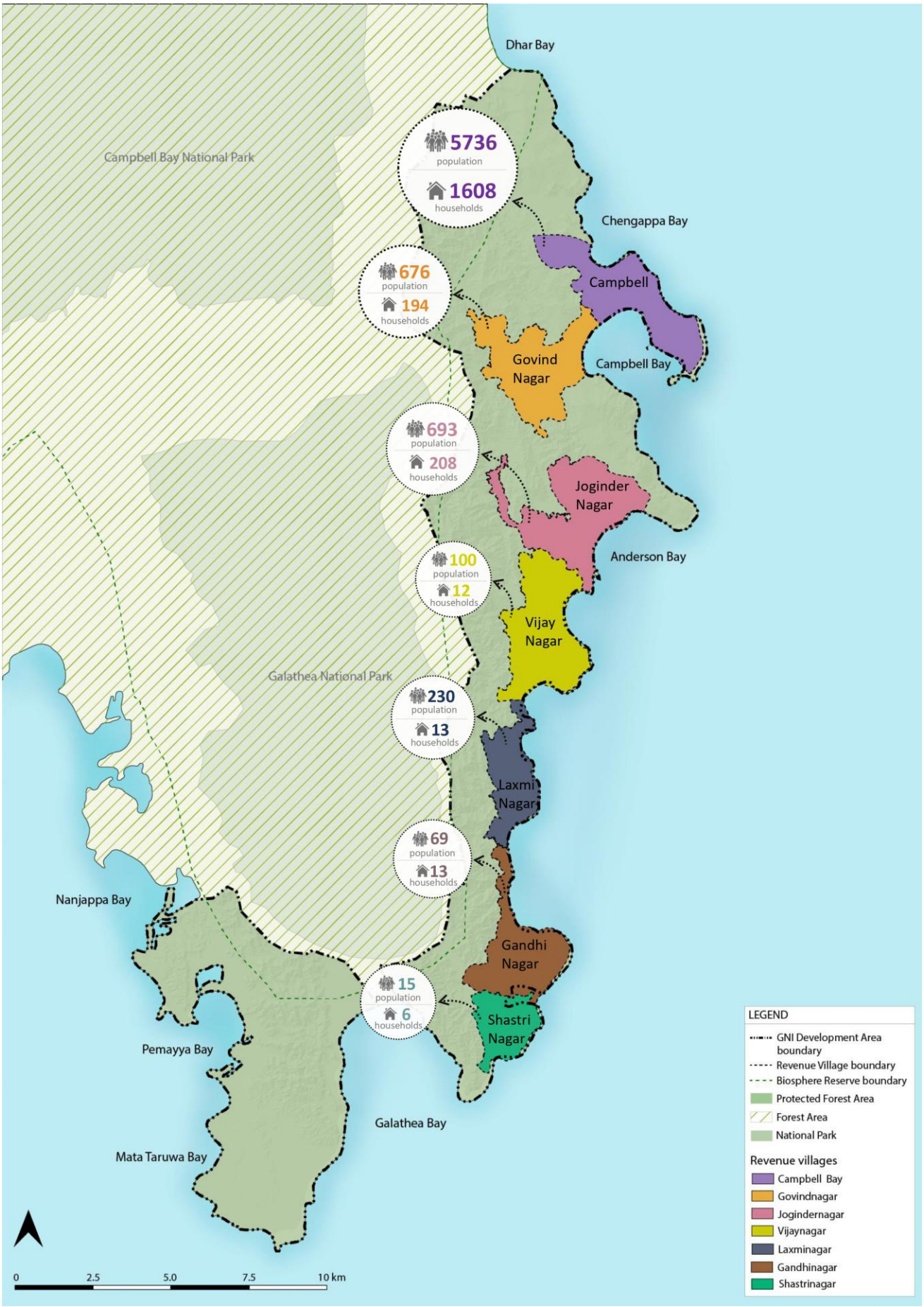
As per census 2011, 74.5% of the total population are literate. 78.32% of the total males are literate while female literacy rate stands at 68.8% as shown in Table 2-4 below:

TABLE 2-4 : LITERACY RATE IN REVENUE VILLAGES OF GNI

Name of Village	Literates			Illiterates		
	Persons	Male	Female	Persons	Male	Female
Campbell Bay	4352	2708	1644	1384	654	730
Govind Nagar	497	296	201	179	89	90
Joginder Nagar	489	297	192	204	104	100
Vijay Nagar	65	63	2	35	32	3
Laxmi Nagar	145	142	3	85	84	1
Gandhi Nagar	47	43	4	22	19	3
Shastri Nagar	13	7	6	2	2	-
Total	**5608**	**3556**	**2052**	**1911**	**984**	**927**

(Source: Census 2011)

FIGURE 2-4: DEMOGRAPHY



(Source: Consultant's Analysis)

2.6 Workers and their Distribution

The data on workers as per 2011 census shows around 50% of the total population is working population. Out of the total workers, 87.85% are the main workers and the remaining fall under the category of marginal workers (refer Table 2-5).

TABLE 2-5 : DISTRIBUTION OF WORKING & NON-WORKING POPULATION IN REVENUE VILLAGES OF GNI

Name of Village	Total Workers	Main Workers	Marginal Workers	Non-workers
Campbell Bay	2707	2417	290	3029
Govind Nagar	305	211	94	371
Joginder Nagar	334	279	55	359
Vijay Nagar	95	95	-	5
Laxmi Nagar	222	219	3	8
Gandhi Nagar	64	56	8	5
Shastri Nagar	10	6	4	5
Total	**3737**	**3283**	**454**	**3782**

(Source: Census 2011)

Out of the total main working population, 93.72% are falling in the other workers category, followed by cultivators, agricultural laborers and household industry workers as shown in Table 2-6 below:

TABLE 2-6 : CATEGORY WISE DISTRIBUTION OF MAIN WORKERS IN REVENUE VILLAGES

Name of Village	Cultivators	Agricultural labourers	Household industry workers	Other workers
Campbell Bay	38	21	7	2351
Govind Nagar	40	34	1	136
Joginder Nagar	24	-	1	254
Vijay Nagar	5	12	-	78
Laxmi Nagar	7	4	-	208
Gandhi Nagar	-	6	-	50
Shastri Nagar	4	2	-	-
Total	**118**	**79**	**9**	**3077**

(Source: Census 2011)

Out of the total marginal workers, other workers account for 74.66% whereas the remaining about 25% workers fall under cultivators, agriculture labourers and household industry categories as shown below in the Table 2-7.

TABLE 2-7 : DISTRIBUTION OF INDUSTRIAL CATEGORY OF MARGINAL WORKERS IN REVENUE VILLAGES

Name of Village	Cultivators	Agricultural labourers	Household industry workers	Other workers
Campbell Bay	24	34	7	225
Govind Nagar	-	1	-	93
Joginder Nagar	24	9	7	15
Vijay Nagar	-	-	-	-
Laxmi Nagar	-	1	-	2
Gandhi Nagar	-	4	-	4
Shastri Nagar	4	-	-	-
Total	**52**	**53**	**14**	**339**

(Source: Census 2011)

2.7 Economic Activities

2.7.1 Agriculture & Allied Activities

Largely covered with dense forests and hills, with habitation only in the revenue villages along the eastern coastline, the setup of the Great Nicobar Island is fairly agrarian. The people in these villages are engaged in fisheries and agricultural activities, though the major employment comes under other services category.

Prior to Tsunami 2004, Great Nicobar had extensive paddy cultivation and coconut plantations. The paddy fields were severely impacted by the Tsunami and the cropping pattern has now shifted away from paddy to coconut, fruits and vegetables. As per the Directorate of Economic and Statistics Report 2021-22, the net sown area and total copped are about 415 hectares and 480 hectares. Spice cultivation was also adversely affected by the Tsunami, destroying most of the spice growing area and presently, only one hectare is under spices. Post tsunami, the economy of Great Nicobar has been primarily dependent on tertiary sector. Trading is prime source of economic activity followed by public administration, Agriculture and fishing. Due to Great Nicobar's geographic and natural resource constraints, Island is dependent on commodities from mainland.

Geography of the island is hilly and undulating hence very less fertile land is available for cultivation. The Island is not self-dependent in matters of production of food grains. Cropping patterns in Great Nicobar are Paddy, Vegetables, Coconut, Areca nut, Fruits. In terms of Fisheries, Great Nicobar has huge potential for Oceanic Tuna, which is virtually unexploited, and offers ample scope for deep sea fishing. The main bottleneck is lack of connectivity for export of fish from Great Nicobar Island.

2.7.2 Existing Industries

As per the Industrial profile of ANI published by MSME division, 1 industrial estate is in Cambell Bay for which 4 Hectare land was acquired. Total 17 Number of sheds were allotted in the industrial estate. The growth of Micro and Small Enterprises in the Andaman and Nicobar Islands has been limited to few areas and not been very encouraging.

With a population of only around 7500 people sparsely distributed in the seven revenue villages, the landscape of this rural area does not boast of developing any large-scale industrial estates. The few existing industries (small scale) at Campbell Bay include micro and small printing enterprises, automobile repair workshops, small scale engineering and steel, furniture industries, etc. The village of Joginder Nagar has few small-scale functional industrial units for Coconut Powder. The coconut cultivated in the island is processed in these units to produce coconut powder which is then exported to the mainland by ferries. Another industry for coconut powder is in the process of being setup in Gandhinagar village in the south. The other small-scale industries identified in the island include coconut-oil industry and household industry for making plates from coconut leaves.

2.7.3 Other Economic Activities

As per the sixth economic census (2013), Great Nicobar Tehsil had 394 establishments in rural area and constituted 1.38% of total establishments in the UT. Out of 394 establishments, 272 were with fixed structure, 40 were without fixed structure and 82 were inside household. Total 1051 person were employed in Great Nicobar tehsil out of which 760 were male and 291 females.

2.8 Built Environment

Existing habitation on the island is concentrated along the eastern coastline in the revenue village with an area of 45.30 sq.km (including 1.07 sq.km of land lost to sea erosion) with a few patches of agricultural lands and other plantations. Campbell Bay serves as a more diverse hub of land use, encompassing residential, mixed-use, commercial uses like restaurants, small commercial establishments, markets, eateries, industrial uses, public and semi-public uses, transportation uses like bus stands and terminals, and horticultural spaces.

All residents, including the Nicobarese in Chingen village, own their homes, supported by necessary infrastructure and amenities. According to the 2011 census, 67.86% of households reside in permanent structures, followed by 30.41% in semi-permanent structures and 1.52% in temporary ones. There are no hotels or homestays within the revenue area. The developed portions of the island feature low-density residential areas, tsunami shelters, small-scale commercial development, and some community facilities. The tsunami shelters have evolved into established neighbourhoods, with families having resided there for the past 10 to 15 years. Government housing is available for government officials within the revenue area.

2.9 Natural Environment

GNI has the following areas protected under national and local legislation for their ecological, landscape, cultural or other related values given below:

- Galathea National Park
- Campbell Bay National Park

2.9.1 Flora & Fauna

The island is characterized by a rich and diverse ecology encompassing extensive mangrove ecosystems, lush tropical evergreen and semi-evergreen forests, and a unique array of biodiversity. This includes notable species such as the Nicobar megapode, long-tailed macaque, saltwater crocodile, and crucial nesting sites for sea turtles, all amidst the backdrop of vibrant coral reefs in the surrounding waters.

Kailash Chandra (1999) states that interesting and endemic species of higher animals of Great Nicobar Biosphere Reserve include the Nicobar crab-eating monkey, Nicobar fruit-bat, Nicobar flying fox, Nicobar tree-shrew among mammals; and Nicobar serpent eagle, South Nicobar-Megapode, Nicobar quill, Nicobar pigeon, Nicobar cuckoo-dove, Nicobar parakeet, white bellied swiftlet, Nicobar kingfisher, Nicobar myna, Nicobar sun-bird, etc. among birds. The other interesting fauna belonging to the island are amphibians and reptiles - Nicobar tree frog, Nicobar toad, Nicobarese tree stink, water monitor lizard, Daniel's Forest lizard, worm lizard, Nicobar water snake, reticulated python, leatherback sea turtle, green sea turtle, Hawk's bill turtle, Olive Ridley turtle, southeast Asian box turtle, estuarine crocodile, etc.

According to the Wildlife Conservation Plans developed by the Wildlife Institute of India (WII), Zoological Survey of India (ZSI), Salim Ali Centre for Ornithology and Natural History (SACON), Botanical Survey of India (BSI), Indian Institute of Forest Management (IIFM), and the Andaman and Nicobar Forest Department, the habitat areas for each species have been spatially delineated on the map. Furthermore, potential eco-sensitive areas requiring conservation and protection have been identified.

Conservation strategies for the Nicobar megapode, long-tailed macaque, sea turtles, and saltwater crocodile within the Environmentally Sensitive Zones (ESZ) are being implemented with comprehensive safeguards. The documented locations of endemic species are outlined in various conservation plans.

2.9.2 Island Coastal Regulation Zone

The Great Nicobar Island falls under the ICRZ Notification 2019, designed to conserve, and protect the coastal stretches and marine areas. The focus is on ensuring livelihood security for fishing communities and other locals, promoting sustainable development.

The NCSCM (National Centre for Sustainable Coastal Management) in Chennai has prepared the ICRZ map for the project area, aligning it with the approved ICZMP (Island Coastal Zone Management Plan) as per the ICRZ notification 2019. The total ICRZ area within the proposed project area of 20.02 sq. km. and is classified into ICRZ IA, IB, III, and IVB areas:

- ICRZ IA is an environmentally critical zone covers about 35% of the total ICRZ area. A 20 m buffer along mangroves is mandated. Only eco-tourism activities like mangrove walks and nature trails are allowed in this 20m after HTL. Stilted road construction is permitted, but permanent structures are prohibited.

- 42% of the total ICRZ area is the Intertidal Zone which permits land reclamation and bunding for foreshore infrastructure activities. Strict restrictions are in place, allowing road construction on stilts and only foreshore infrastructure activities.
- CRZ III zone up to 50 m from the High Tide Line (HTL) is designated as No Development Zone (NDZ). For eco-tourism activities shall be permitted after 20m distance away from HTL. Agriculture, horticulture, parks, and construction of temporary tourism structures are permitted. Roads, except for National/ State Highways, are prohibited in the area.
- Beyond the NDZ, ICRZ III (50m to 100m from HTL) allows construction of resorts, hotels, dwelling units (with height not more than 9m and G+2) and fishermen houses for tourism like 'home stay'.
- ICRZ-IVB areas shall include the water area and the bed area between low tide line (LTL) at the bank of the tidal influenced water body to the low tide line (LTL) on the opposite side of the bank, extending from the mouth of the water body at the sea up to the influence of tide. Here, only fishing and foreshore activities are permitted, and roads can be constructed on stilts.
- The emphasis on stilt construction in certain zones underscores the commitment to minimizing the ecological footprint, ensuring that human activities coexist with the delicate coastal ecosystem of GNI.

2.10 Transportation

2.10.1 Air Connectivity

Currently, there is no Civilian airport at GNI, but INS BAAZ station located at Campbell Bay which is facilitated with Dornier aircraft and helicopter services for administrative and medical emergency purposes, for citizens and administration of GNI.

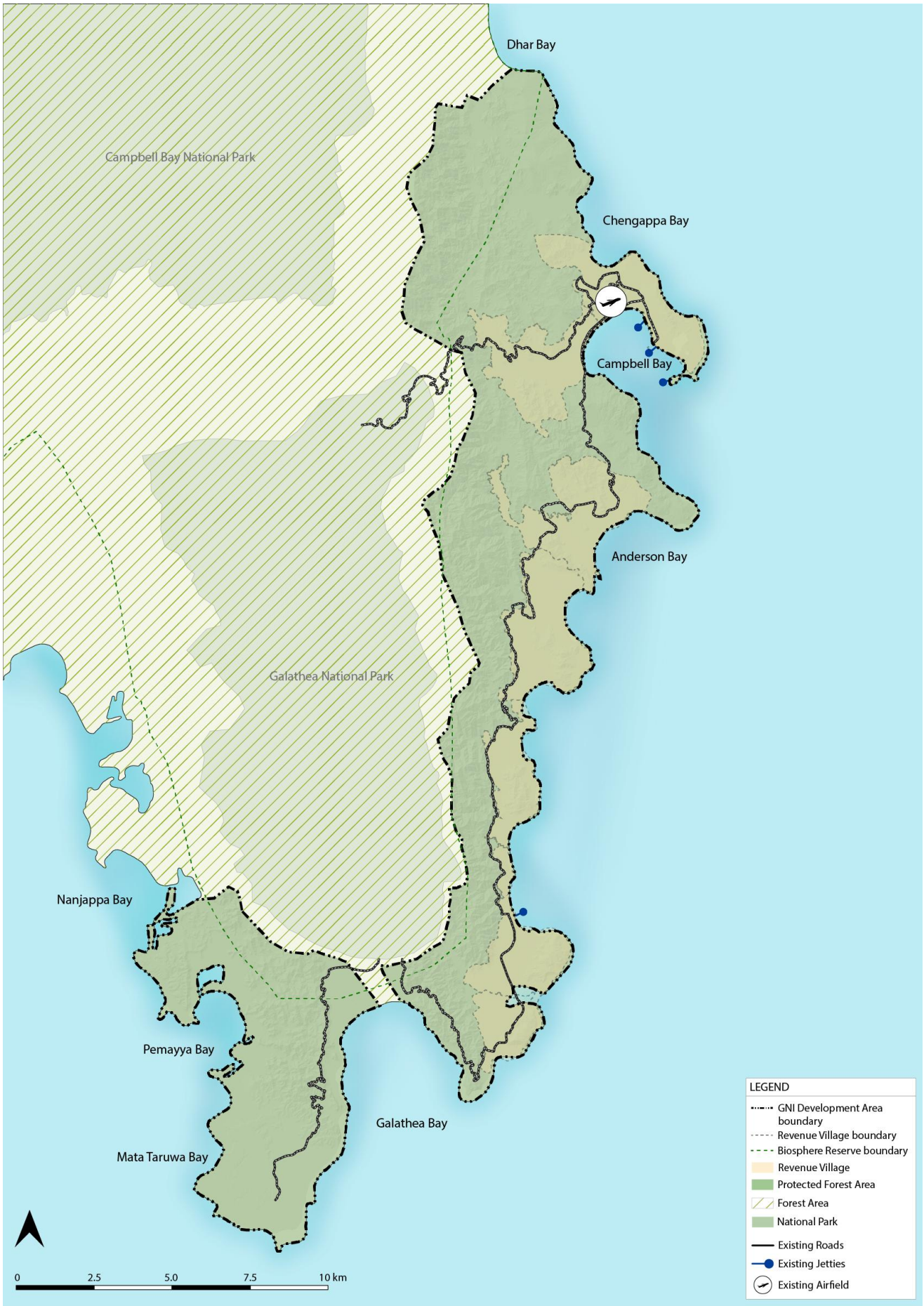
2.10.2 Water (Sea) Connectivity

Ferry connectivity to Great Nicobar Island is facilitated through the Campbell Bay Jetty and the Breakwater Jetty. Ferries operate from Phoenix Bay and Hado Wharf, connecting Sri Vijaya Puram to Great Nicobar Island, with the journey taking approximately one day. The MV Campbell is the primary vessel used for this route, transporting around 500 passengers from Sri Vijaya Puram to Campbell Bay, while also making stops at the Nancowry group of islands in the Nicobar district. This service is the most popular means of passenger movement to the island.

2.10.3 Road Connectivity

Great Nicobar Island features two major roads: the North-South Road and the East-West Road. The North-South Road, built by the Andaman Public Works Department (APWD), connects all east coast villages, extending from Campbell Bay to Shastri Nagar and reaching the Galathea River mouth at Galathea Bay, as illustrated in Figure 2-5.

FIGURE 2-5: EXISTING TRANSPORTATION INFRASTRUCTURE



(Source: Consultant's Analysis)

Further, an intra-island bus service is provided by the Transport Department, operating a total of 10 buses with a frequency of one bus per hour on several routes. These routes include Campbell Bay to Chingen village, Joginder Nagar, Vijay Nagar, Laxmi Nagar, Gandhi Nagar, and Shastri Nagar, as well as a connection from Campbell Bay to Govind Nagar.

Bus shelters have been established by Panchayat Samitis, featuring a terminal with a waiting hall and transit accommodation at the STS unit in Campbell Bay. Overall, passenger movement across the island largely relies on private transportation, with some dependence on paratransit and public transport for inter-town travel.

2.11 Physical Infrastructure

Water Supply: As per the census 2011, 71.91% of the total households have access to tap water from the treated source, 11.32% to the tap water from untreated source, 8.7% from the uncovered well, 3.83% from the spring and the rest from the river/ canal/ tank/ pond/ lake/ tubewell and other sources. Andaman Public Works Department (APWD) is providing water supply to the 7 revenue villages and 1 tribal habitation located near Galathea Bay, the details of which are as follows:

TABLE 2-8 : EXISTING WATER SUPPLY DETAILS

Villages	Popu-lation	Demand In Lakh Litres per day (LLD)	Source		Treatment plant Capacity (Lakhs Ltrs)	CWR/OHT Capacity (Lakhs ltrs)	Water Availability	
			Wells/ Nallah-Nos.				Normal	Summer
Campbell Bay	4572	2.52	1	3	4.37 & 3.60	5.3 / 5.5	7.5	4.12
Govind Nagar	2744	1.51	0	1	3.6	2.8 / 0.50	4.5	3
Chingen	120	0.07	0	2	3	0.25 /1.00	3.2	2
Joginder Nagar	940	0.52				1 / 2	3.2	2
Laxmi Nagar	166	0.09	0	2	1	0.50 / 0.20	1.15	0.25
Gandhi Nagar	504	0.28	2	1	3	0.90 / 0.50	2.25	0.3
Shastri Nagar	310	0.17	2	1	1	0.25 / 1.00	1.15	0.5
Pilobha	50	0.03	2	0	Nil	Nil	0.1	0.05

(Source: APWD)

Waste Management: At present, there is no door-to-door collection or two-bin collection system in Great Nicobar. There are community bins at few locations in the villages that are available for domestic solid waste collection. Waste is collected without segregation from these community bins and transferred to only available dumping ground at Vijay Nagar village. The collected waste gets segregated at the SW segregation shed in Vijay Nagar.

Sanitation: As per census 2011, 56.35% of households have access to septic tanks and 14.4% to the piped sewer system. There are community toilets built in revenue villages where 2.27% have been accessing it. 25.41% of households have no access to latrine facilities leading to open defecation. The situation regarding sanitation facilities has undergone significant improvement as a result of interventions under Swachh Bharat Mission (SBM). As per the latest data available from SBM, the 100 % population in seven villages of Campbell Bay block falling in the development area of GNI. The data also indicates that all the households have toilets connected to septic tanks with soak pit as part of the sanitation arrangement.

Drainage: As per Census 2011, in the case of drainage connectivity for wastewater outlet, 49.13% of the households have no access to drainage system while 34.42% have access to open drainage and 16.45% to closed drainage. The Drainage is natural and takes course of the existing site gradient either towards the existing water bodies or sea for final discharge. Great Nicobar Islands are characterized by steep ridges and valleys of varying width drained by more or less streams.

Power: As per the census 2011, 89.53% of the total households have access to electricity followed by 9.09% of the households depend on traditional oil based source of lighting and the remaining 1.11% of households have no access to lighting at all. The power demand of Great Nicobar is 1.08 MW (2022). The existing power supply system consists of diesel generators of which two generators are normally running to feed the current requirement. No renewable energy installations are currently present. The existing electrical network extends to all the seven villages in the development area.

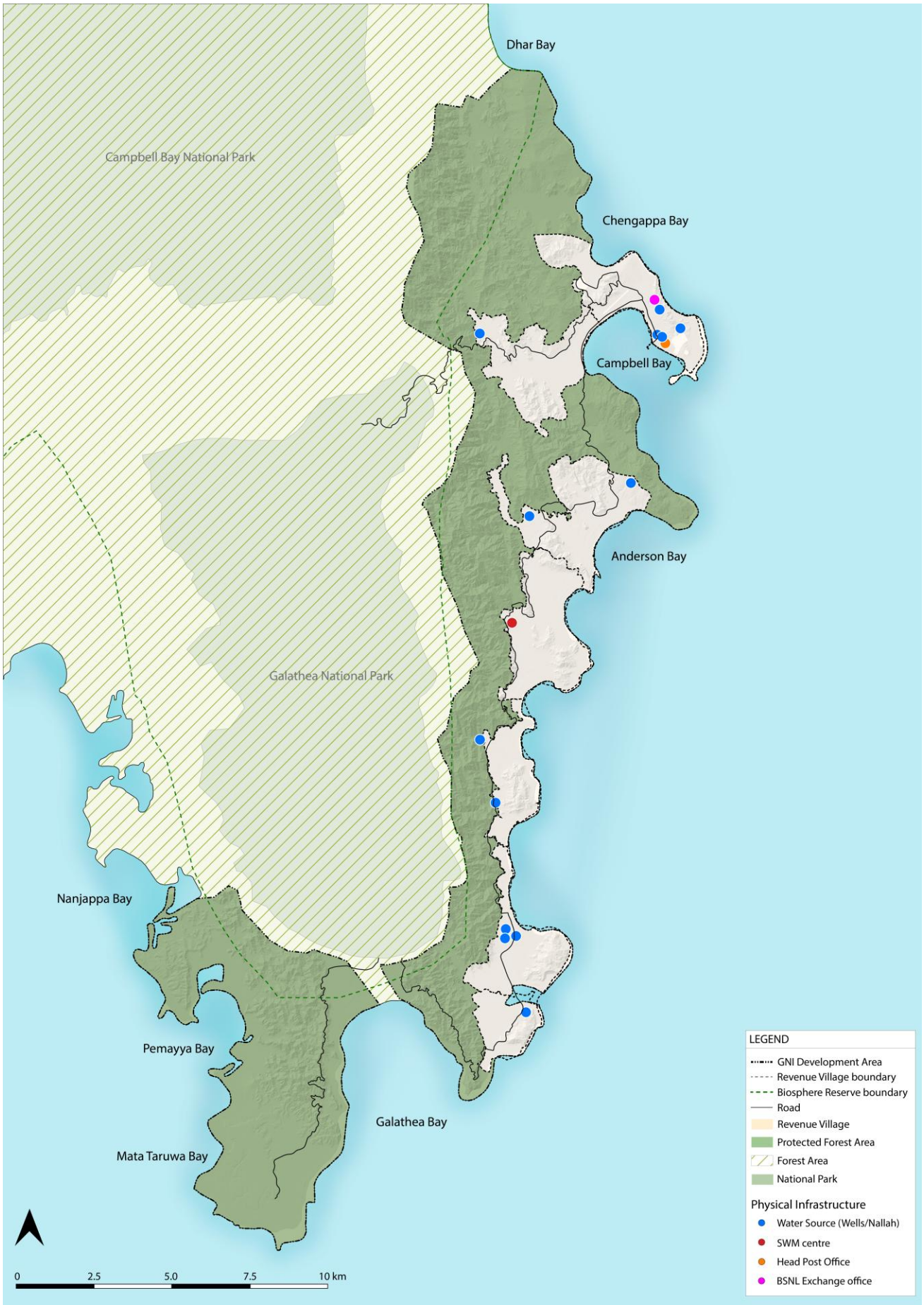
The details of existing electrical network available within the project area is below:

- Generation: Installed capacity: 3.2 MW (4x800kW Diesel Generator) & Derated Capacity 2.4 MW
- No. of 11kV Feeders: 2 nos. (Head Quarter Feeder – 8.4Km. and Outer Feeder – 50.86Km.)
- 11 KV Distribution of HT Line Length: 59.26 KM

Telecommunication: Within the GNI Development Area, BSNL is providing telecommunication facilities in the island through 4G towers installed at different locations and a BSNL telephone exchange office is located at Campbell Bay village, adjacent to the APWD Guest House. There is also 1 head post office in the island located at Campbell Bay. Figure 1-8 shows the locations of existing physical infrastructure within the Development Area.

The existing physical infrastructure within GNI Development Area has been illustrated in Figure 2-6.

FIGURE 2-6: EXISTING PHYSICAL INFRASTRUCTURE



(Source: Consultant's Analysis)

2.12 Social Infrastructure

Educational Facilities: The island's social infrastructure for education comprises 10 anganwadis, 7 primary schools, 3 senior secondary schools, and 1 Coast Guard public school. The primary school situated in in Shastri Nagar is considered as the southernmost school of India.

Health Services: Despite certain limitations, the GNI presents a commendable array of health facilities in the revenue villages, including 7 health sub-centres, 1 primary health centre, and 1 Government hospital in Campbell Bay. The veterinary services available on the island include 1 veterinary hospital in Campbell Bay and 1 Veterinary Sub Dispensary in Gandhi Nagar.

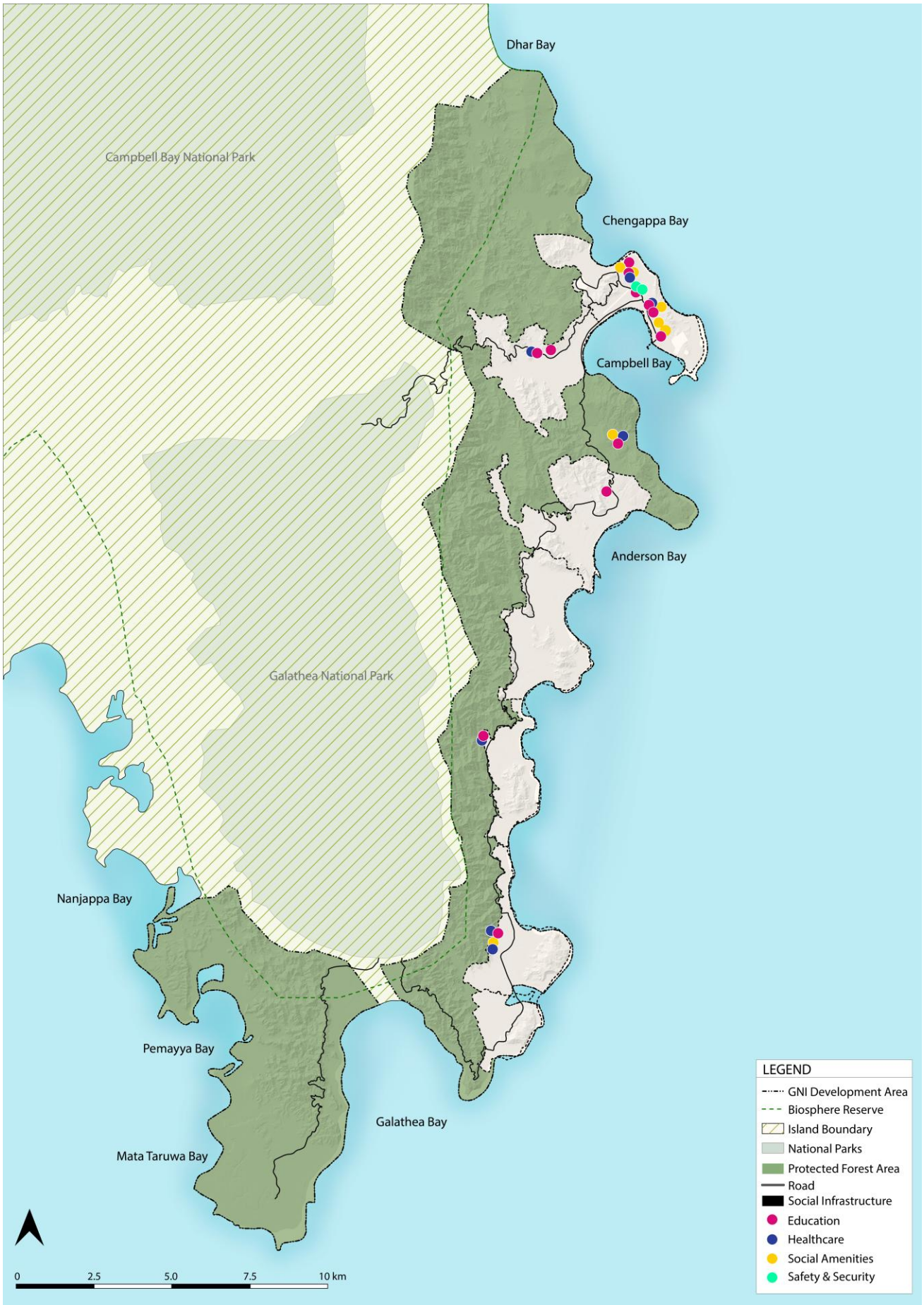
Safety & Security Services: GNI has 2 police stations, 1 each at Campbell Bay and Laxmi Nagar. In addition, 2 police outposts, 1 each at Campbell Bay and Gandhi Nagar are also provided. There is 1 fire station at Campbell Bay.

Community Facilities: Community facilities at GNI include 15 temples, 7 churches, 1 mosque, 1 gurudwara, 5 community halls, 1 zonal library, 1 yoga centre, 1 meditation hall and 10 burial & cremation grounds spread across the island.

Distribution Services: Within GNI, Indian Oil petrol bunk is situated in Campbell Bay next to the Civil Supply Office. LPG distribution services are also available in the island.

The existing social infrastructure within GNI Development Area has been illustrated in Figure 2-7.

FIGURE 2-7: EXISTING SOCIAL INFRASTRUCTURE



(Source: Consultant's Analysis)

2.13 Recreation & Tourism

Presently, there is no influx of tourists to GNI, as the island is not accessible to the public. However, GNI possesses significant scope for the tourism and business sectors due to its pristine beaches and other attractions, as outlined below. The tourism sector promises to generate local employment and stimulate economic growth in the future. At present, there are no accommodation facilities available for tourists, either from the government or the private sector. Key landmarks and potential tourism sites include scenic viewpoints, beaches, and areas suitable for nature walks and placemaking.

2.13.1 Marine Assets

The southeast coastline of the island is composed of a series of beautiful coves and bays with white sand beaches that are framed and separated by tropical forests. The east coast consists of eight bays along the 13 km linear stretch of coastline from Gandhi Nagar in south to Campbell Bay towards north, as illustrated in Figure 2-8.

Most of these bays are 1.5 to 2.0 km wide and have 100-400 m jungle-covered hills forming a beautiful backdrop. Between the hills and the sea in the east are flat areas of revenue villages with sparse habitation, many of which are currently used for coconut cultivation. These areas are generally developable and have great potential for coastal/beach tourism and to develop marine recreational areas.

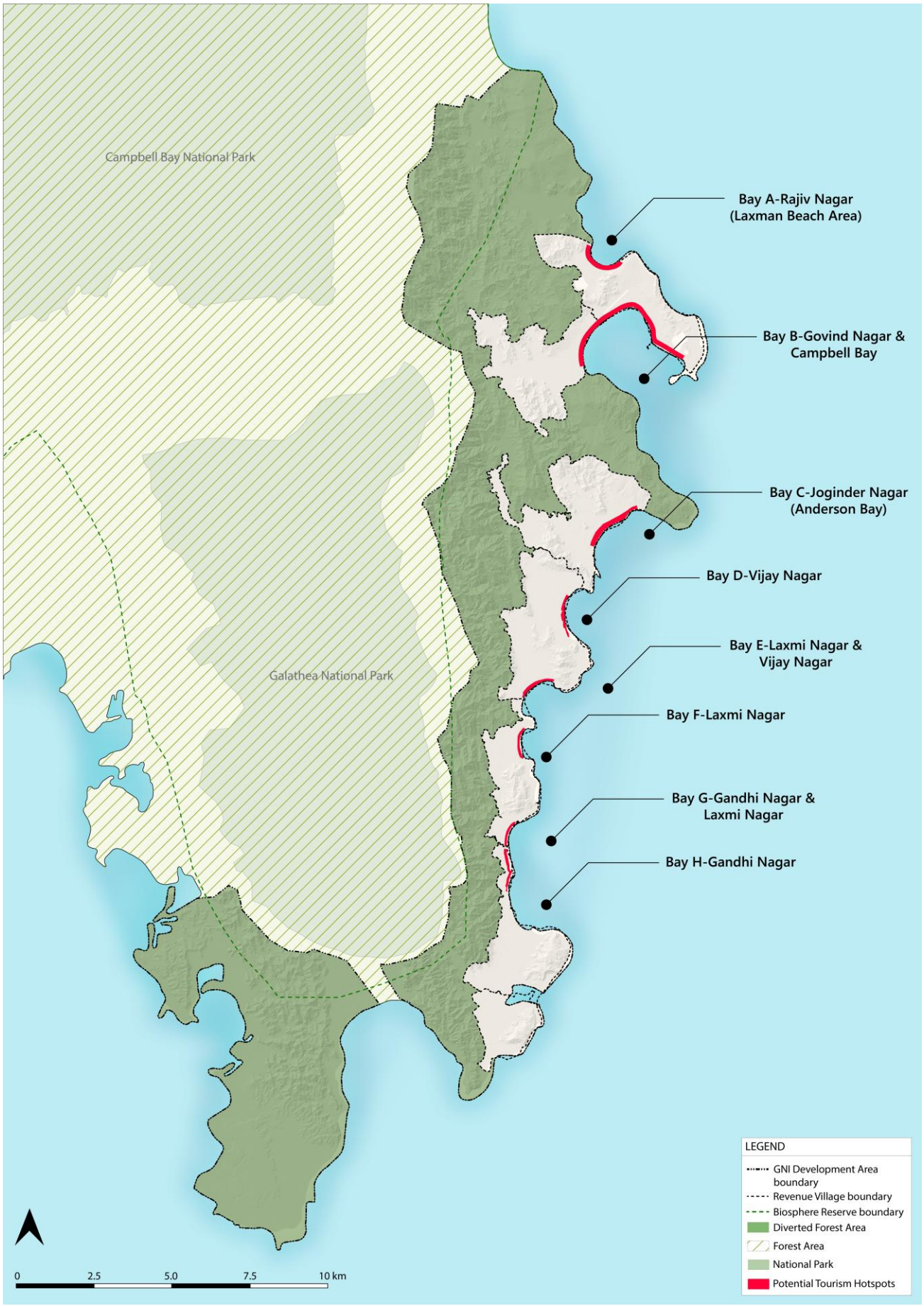
2.13.2 Tropical Forest Assets

The forest is dense and includes multiple layers, from groundcover to intermediate shrubs and trees to soaring trees and other species that dominate the forest, reaching a full 10-15 meters above all other growth. From a tourism perspective, this jungle (especially at the backdrop of the flat land on the eastern coast) could easily attract the attention of ecotourists looking to experience a tropic forest or perhaps learn how such an ecosystem functions—and can be preserved in the future. The flora and fauna constitute another potential tourism draw. Two of the three indigenous endangered species grow/live in the forest and visit along the beaches (tree fern, megapode, leather-back turtles, etc.). The biodiversity could be showcased through visits to the forest as well as exposition.

Eco-tourism activities like nature trails, trekking, camping sites, etc. and other adventure tourism could be explored in this region, by utilizing the existing natural assets of forests, undulating landforms forming beautiful mixed landscapes of dense green vegetation opening up to blue sky, water features like streams, etc. flowing through the slopes and the overall serenity of the natural setting. Villages especially like Laxmi Nagar have beautiful tropical hills at the backdrop, which could be explored as nature reserves/nature-based tourism and other eco-tourism resorts, homestays, etc. to be developed here.

Thus, these rich natural assets of the island of the existing topography, flora and fauna, drainage and land formations, etc. can be showcased and brought to forefront through activities like Ayurvedic/Medicinal tourism/Research Institutes & workshops, etc. and be acknowledged for its importance, at the same time be valued and preserved.

FIGURE 2-8 : TOURISM POTENTIAL IN GNI



(Source: Consultant's Analysis)

2.14 Land Ownership & Classification

The land under GNI Development Area comprises of 2 distinct categories, namely:

1. Land under revenue villages (including land under Deemed Forest)
2. Land diverted from protected forest for Development Area as per Order no. 8-22/2020-FC

2.14.1 Land Under Revenue Villages

The total land area under 7 revenue villages of GNI Development Area is 45.3 sq. km as per Census 2011 data. The land under revenue villages can be broadly classified into 3 categories viz. (i) Private land, (ii) Government Land (including Deemed Forest), the distribution of which has been illustrated in Table 2-9 below:

TABLE 2-9 : VILLAGE WISE LAND OWNERSHIP

S. No	Village	Ownership	Area (in Ha)	Total Area (in Ha)
1	Campbell Bay	Government	730.81	752.42
2		Private	21.61	
3	Govind Nagar	Government	240.55	750.12
4		Deemed Forest	162.54	
5		Private	347.03	
6	Joginder Nagar	Government	332.57	838.49
7		Deemed Forest	310.77	
8		Private	195.15	
9	Vijay Nagar	Government	258.45	808.70
10		Deemed Forest	250.95	
11		Private	299.30	
12	Laxmi Nagar	Government	153.99	447.65
13		Deemed Forest	112.39	
14		Private	181.27	
15	Gandhi Nagar	Government	342.77	599.51
16		Private	256.74	
17	Shastri Nagar	Government	122.39	333.58
18		Deemed Forest	51.35	
19		Private	159.84	
	Total Revenue Area			**4530.48**

(Source: Consultant's Analysis)

The government lands in revenue villages are classified under 3 categories through:

- Form AM: Un-occupied Land set apart for exercise of Nistar Rights and these include lands reserved for footpath, roads, pipeline, slaughterhouse, PMAY, bus stands, burial grounds, jungle, dumping yard, Eco-Friendly Tourist police "KIOSK", drains, threshing floor, pasture (grazing), panchayat house, well, schools, playground.
- Form AN: Un-occupied Land available for Disposal and these include lands classified as hills, house sites, commercial, P-I and P-II, nallah, well, C-I and govt.

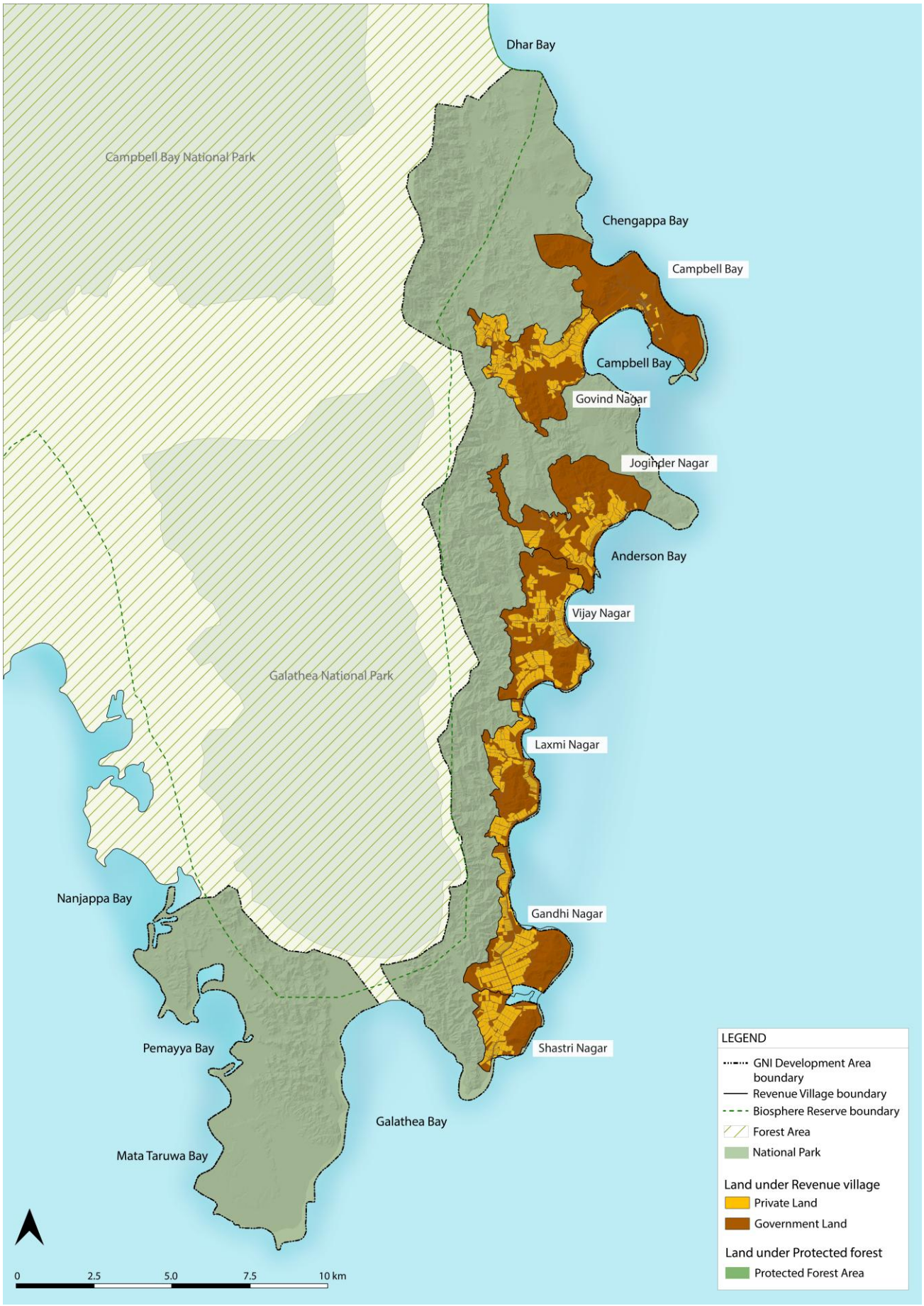
- Form AO: Un-occupied Government Land other than those set apart for Nistar or available for Disposal under Section 194 and these include land classified as rock, nallah, sandy beach, well, and swampy land/ land under water.
- Deemed Forest: Excluding Campbell Bay and Gandhi Nagar, the remaining 5 revenue villages have certain areas notified as Deemed Forest.

The survey number-wise land ownership records have been transferred to GIS database for understanding the spatial distribution of land under government and private ownership (Figure 2-9).

2.14.2 Diverted Forest Land

The GNI Development Area includes 121.87 sq.km of diverted forest land out of the total area of 166.10 sq.km.

FIGURE 2-9 : LAND OWNERSHIP



(Source: Consultant's Analysis)

2.15 Existing Land Use

The base map has been prepared using the LiDAR data received from Government of India, Ministry of Defence. Using the base map, field surveys were carried out in 2023, to record the existing land use for the buildings/ structures in the different revenue villages as well as habitations located outside the revenue survey boundaries. In addition, the revenue maps for the 7 villages have been geo-referenced and super imposed on the base map. The revenue records for all the villages (Form F, Form AM, Form AN, Form AO) especially with regard to waterbodies, roads, reservations for various uses such as burial grounds, education, etc), submergible lands, deemed forest have been transferred onto the superimposed revenue map for preparing the existing landuse map. In addition, the lands shown as Government Lands under category P-I & P-II in Form AN, which as per ground condition fall under submergence area or mangroves have been considered as 'Submergible Land' or 'Mangrove' respectively, for the purpose of land use.

For the area falling outside the revenue villages, i.e. protected forest land, the ground features based on the satellite imagery have been used for demarcation of various land uses within this forest area.

The existing land use map for GNI Development Area is given in Figure 2-10 below.

Table 2-10 below gives the break-up of existing land use for the GNI Development Area.

The developed area within GNI Development Area (admeasuring 166.10 sq.km) with land under Agricultural use occupying 17.25 sq.km (around 10% of the total development area). Defence land covers 4.18 sq.km (2.5%), including area under airstrip. Residential areas which include existing settlements, tsunami shelters, and housing colonies, span 0.80 sq.km (0.5%), while Transport & Communication covering Roads and area under Bus stand and Public and Semi-Public land uses comprising of government offices, quarters, medical and health facilities, as well as socio-cultural and religious institutions, make up 1.86 sq.km (1.12%) and 1.4 sq.km (0.84%) respectively.

Other uses include Commercial land (0.04 sq.km, 0.03%), Industrial land (0.01 sq.km), and Mixed-Use areas (0.004 sq.km), each contributing minimally to the overall developed area.

Additionally, water bodies, nallahs, creeks, ponds, and beach areas account for about 2.7% of the total development area. Deemed Forest accounts for about 5.3% of the total development area.

The detailed Existing Land Use map can be referred to in Annexure V.

TABLE 2-10: EXISTING LAND USE DISTRIBUTION 2024 OF GNI DEVELOPMENT AREA AND REVENUE VILLAGES

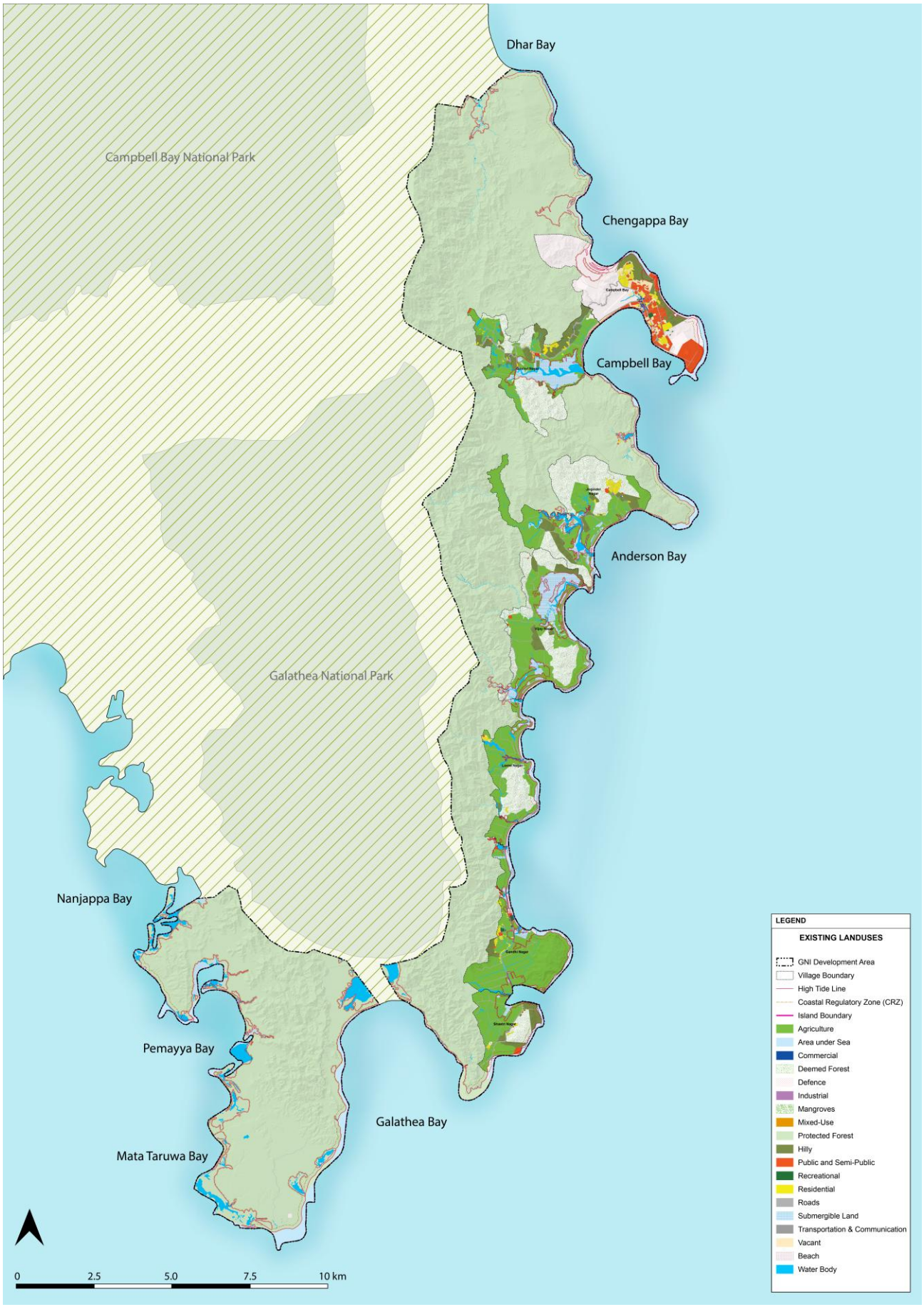
Existing Land Use Category	Campbell Bay	Govind Nagar	Joginder Nagar	Vijay Nagar	Laxmi Nagar	Gandhi Nagar	Shastri Nagar	Protected Forest	Total Area (Ha)	Total Area (sq.km)	Total Area (%)
Residential	34.9146	13.3686	13.6282	0.1465	3.3837	9.3269	2.8872	1.9474	79.6031	0.80	0.479%
Mixed-Use	0.3663								0.3663	0.004	0.002%
Commercial	3.3299	0.2588	0.1374			0.4159			4.1419	0.04	0.025%
Industrial			0.5223			0.4089			0.9312	0.01	0.006%
Public & Semi-Public	122.4593	3.1820	2.0220	1.3340	0.3296	4.1760	4.4221	1.7473	139.6722	1.40	0.841%
Transportation & Communication	30.0383	30.1095	21.5800	31.9977	22.2836	20.8221	13.6775	15.2650	185.7738	1.86	1.118%
Recreational	2.7376					2.7785			5.5161	0.06	0.033%
Agriculture		227.4405	334.9261	322.9772	219.6191	439.4552	180.9146		1725.3327	17.25	10.387%
Vacant	44.5898	5.9934	0.2475		0.8758	1.4763	0.0311		53.2139	0.53	0.320%
Beach Area	5.0654		7.5766	9.5638	8.3360	11.4435	7.1585	8.6839	57.8276	0.58	0.348%
Submerged Land		91.7769	24.3819	129.7033	13.9247	13.3968	5.1783	2.7420	281.1040	2.81	1.692%
Water Body	3.0640	45.3698	47.9022	18.1069	23.6446	24.9422	3.1755	227.7582	393.9633	3.94	2.372%
Mangrove		4.2641	13.7596	1.3539					19.3775	0.19	0.117%
Defence	413.6594	3.1340					0.7578		417.5511	4.18	2.514%
Area Under Sea	16.1290	2.0628	7.3227	13.9059	23.1688	19.5018	3.2195	355.4266	440.7370	4.41	2.653%
Hilly	64.4819	114.7603	67.3684	44.8466	2.4239	12.3307	39.2737		345.4857	3.45	2.080%
Deemed Forest		205.6814	298.3552	220.9876	111.1156		49.7903		885.9300	8.86	5.334%
Protected Forest								11573.4296	11573.9096	115.74	69.679%
TOTAL	**740.8354**	**747.4019**	**839.7302**	**794.9233**	**429.1053**	**560.4747**	**310.4862**	**12187**	**16610**	**166.10**	**100%**

(Source: Consultant's Analysis)

Note:

- *Defence area includes area under GREF (BRO).*
- *The submerged land and water bodies under protected forest area is based on the area identified as per satellite imagery.*

FIGURE 2-10 : EXISTING LAND USE



(Source: Consultant's Analysis)

3 VISION FOR GNI

3.1 Stakeholder Consultation

The visioning exercise for GNI has been undertaken through extensive research on the trends in the development of port and island cities around the world and a clear understanding of the perception of key stakeholders involved. The benchmarking on trends in the development examined various aspects including scale of port operations, port induced activities, and allied economic opportunities, as well as growth of tourism, tourism-based employment, hospitality sector, and potential activities for attracting tourists.

The stakeholder engagement process involved consultations with local residents of GNI, visioning workshop with various sectoral departments/agencies of A&N administration and a series of meetings/discussions with various Ministries of Government of India directly or indirectly involved in planning and development of GNI. In addition, to gain a wider perspective on the possibilities of development in such unique setting, several eminent experts in the field were consulted for providing guidance in specific sectors like master planning, climate resilience, infrastructure planning etc. The project proponents of all key projects i.e. ICTT port, Airport, Power Plant and Defence were also consulted for understanding their dependencies and requirements from the township.

The entire process of visioning focused on gathering the viewpoints of different stakeholders on sectoral themes like, tourism, city form, sustainability, infrastructure, mobility etc for identifying and aligning the objectives and triggers for development of Master Plan for the township.

The key takeaways from the workshop and consultations are as follows:

1. Great Nicobar is to be envisioned as a globally connected township with a thriving transshipment hub and a global eco-tourism destination leveraging its strategic position.
2. ICTT Port and Tourism, with a focus on eco-coastal tourism and holistic wellness, to act as the key economic drivers, which could be supplemented with other allied sectors of economy to make it sustainable tourism destination featuring premium infrastructure.
3. The connectivity between Campbell Bay and Indira Point to act as a strategic link forming backbone for the development of GNI.
4. The township to be planned keeping in mind the elements of sustainability including eco-friendly resource management, optimized use of land to minimize the impact on island's ecology, efficient use of water through rainwater harvesting & recycling of water and promoting renewable energy sources in the long term.
5. The development and opening of land for development shall consider the carrying capacity as well as eco-sensitivity of the island.
6. The planning of GNI shall be based on multi-nodal concept with each node centered around a particular sector of economy to encourage the implementation of 'anchor-tenant' model for GNI township.
7. The Master Plan shall integrate land use and transportation in a way to promote public transportation-focused development.

8. Solid Waste Management to be centered around participation and involvement of communities and tourists through awareness campaigns for sustainable practices.
9. The governance of township shall be through an autonomous body responsible for promoting development and balancing it with natural environment supported with policy enforcement frameworks.

FIGURE 3-1 : KEY DERIVATIVES FROM VISIONING

(Source: Consultant's Analysis)

3.2 Vision and Key Objectives

Based on the outcomes of stakeholder consultations, the vision statement for GNI has been evolved as:

> *The development vision for GNI is aimed at developing the island into a "Global Port-led City" with a focus on a "Sustainable Eco-tourism", and a model of "Resilient and Livable Urban Amenities", fostering a Robust Circular Economy while harmoniously Integrating with its Pristine Natural Environment and Rich Ecology and Biodiversity, for a Holistic and Vibrant community.*

The key objectives of the development of GNI would include:

- To promote development of ICTP by harnessing the locational advantage of proximity to Malacca Strait and growing Indian economy.
- To strengthen India's presence in the Indian ocean from the perspective of national security.
- To leverage the island's eco-coastal natural resources for promoting tourism and extending an opportunity of unique experience for the visitors.

- To facilitate establishment of a new greenfield coastal city with diverse economy competing with global cities.

The Development Vision for GNI is structured around the following 4 major pillars:

FIGURE 3-2: KEY PILLARS OF THE MASTER PLAN

ESTABLISHING IDENTITY

- Port led economy and sustainable tourism destination

INTEGRATING NATURE

- Seamless integration of natural and urban environments

ENHANCING CONNECTIVITY

- Interconnected Global Community (Inter/intra-island, mainland, and global cities)

DISASTER RESILIENT

- Robust disaster resilient infrastructure and support systems for protection against flood and other natural calamities

(Source: Consultant's Analysis)

4 ECONOMIC DRIVERS AND POPULATION PROJECTION

The economy of Andaman & Nicobar Islands consists of agriculture, trade, commerce, fishing and industry. However, in context of Great Nicobar Island, the economic opportunities are limited in present context with high percentage of resident population engaged in administrative services and the remaining small share of population engaged in agriculture, fishing and supporting trade and services. The Great Nicobar Island has great potential for a well-rounded sustainable development based on economic drivers including ICT Port, Tourism & Entertainment, Processing and other potential drivers like Finance Hub, Knowledge Hub, and Wellness Hub.

4.1 International Container Transshipment Port (ICTP)

Great Nicobar Island lies adjacent to the Western entrance to the Malacca Strait, which is, a major Indian Ocean chokepoint. Seven countries are close to Campbell Bay, which is the headquarters of the southernmost frontier of India in the Great Nicobar Island. This main east-west shipping route links East Asian exports with the Indian Ocean, Suez Canal and Europe. (Refer Figure 1-1)

Approximately 1 lakh ships, including about 25% carrying container cargo, pass through the Malacca Strait-Six Degree Channel annually. The channel carries approximately 35% of the annual global sea trade connecting Asia, Europe, Africa, and the Middle East. Global shipping trade grows at an average rate of 2% per year, while India's shipping trade is growing faster at 4% per year (in the last 10 years). Presently, about 32% of the cargo transshipped is handled at Indian Ports which is aimed to be enhanced to about 95% by the year 2047 as per the 'Maritime Amrit Kaal Vision'. For achieving this goal, Great Nicobar plus Vizhinjam and other hubs together are envisaged to handle most of India's transshipped cargo. Great Nicobar could potentially handle 40–60% of India's transshipment traffic plus some regional third country cargo, assuming competitive tariffs, reliable connectivity to Indian gateway ports, and no major geopolitical disruptions.

Consequently, India aims to capture a significant share in global sea trade with ambitious investments in developing port infrastructure, shipping, shipbuilding & repairing and building maritime systems.

The locational and infrastructure disadvantages of several Indian container terminals result in their dependence on transshipment terminal. A substantial component of container logistics cost associated with container trade is transferred to transshipment terminal. This results in loss of substantial revenue in terms of facilities and higher rate of landings for the country. The quantum of such losses is enormous considering the cargo being presently handled on the Indian ports, which would continue to grow considering the growth of the country. From the logistic point of view, existence of Transshipment port facilities within Indian waters is crucial so that sustained maritime trade can be brought to Indian ports for Transshipment activities in its waters and generating revenue.

The strategic positioning near to the international shipping route and available natural deep draft port with natural Water Depth of 20-30 meters presents opportunity for setting up of an International Container Transshipment Terminal (ICTT) at Great Nicobar. This would further strengthen India's

trading position in the world, through the holistic development of this island and India can participate more fully in the global shipping trade, creating employment opportunities for its citizens and improving quality of life for current and future residents of Great Nicobar Island.

The proposed container transshipment terminal at GNI shall be established as a leading transshipment port with the following distinct advantages:

➢ Deeper water depths closer to shore at Galathea Bay supports the berthing/handling of largest of container ships without comprehensive investments on account of capital & maintenance dredging and complement the present container ports of India and neighbouring countries with lower drafts.

➢ Strategic location of GNI on the trade route, midway between existing transshipment terminals (Singapore, Klang, Colombo etc.) and feeder ports, which provides advantage to shippers resulting in logistics cost savings and also creates a possibility of the containers being transshipped to India, Singapore, and Malaysia shifting to GNI, making it a potential hub transshipment terminal in the Indian ocean region.

➢ GNI will be nearer than Port Klang and Singapore (the transshipment terminals being used currently) for the feeder ships carrying transshipment cargo from East Coast (India) ports and will result in cost and time savings resulting from lesser deviation as it will be a central location for India (East Coast), Bangladesh, Myanmar, and Sri Lanka.

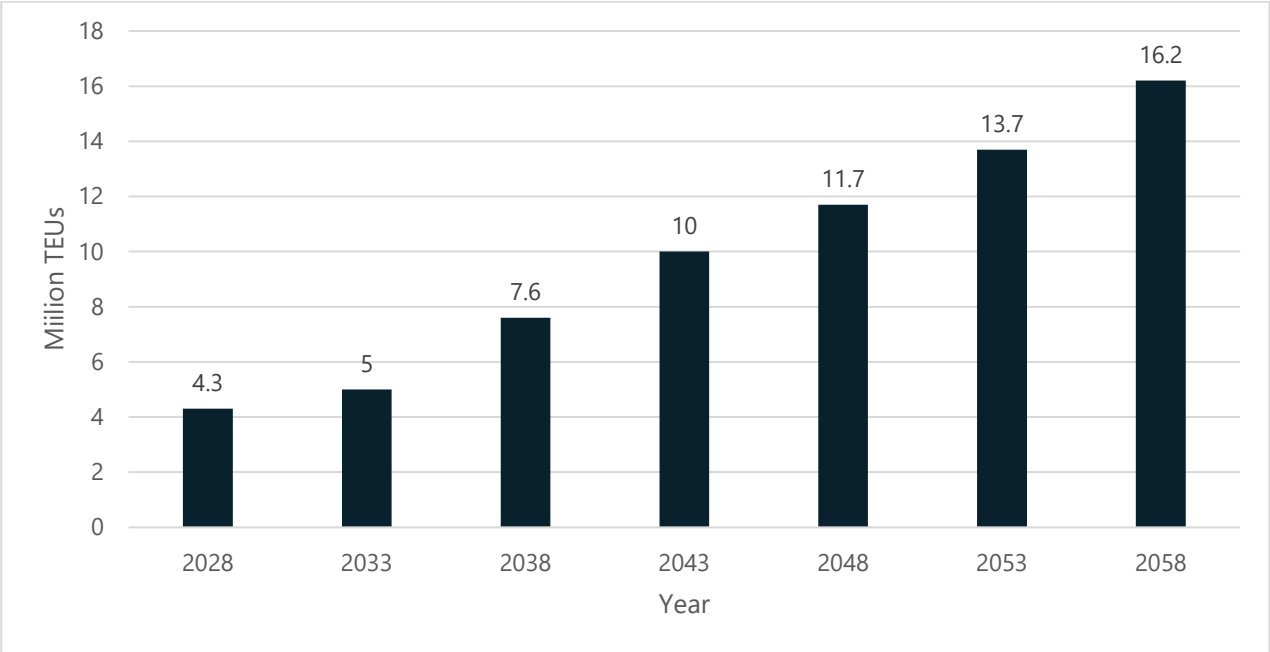
The shipping lines are responsible for complete supply chain related to container trade and are responsible for all the decisions related to type or size of container ships and the routing of the consignment. The feeder operators would connect GNI with all smaller feeder ports. The small container vessels operators with vessel sizes of less than 5,000 TEUs would predominantly be operating between GNI and other Feeder Ports.

The proposed ICTP at GNI would have to compete with the existing 4 transshipment terminals of the region (Singapore, Port Klang, Tanjung Pelepas & Colombo) to gain a share of transshipment containers. The gains in share of transshipment containers would depend upon the logistics cost savings offered to shippers by the proposed ICTP in comparison with the existing container transshipment terminals of the region. The container trade in GNI influence area would grow in line with individual countries' economies and global economy.

GNI's primary markets are the containers traded to Myanmar, Bangladesh, and India's East Coast, Singapore, Malaysia, and Sri Lanka. Singapore, Malaysia, and Sri Lanka already have large transshipment terminals. However, there would be some container traffic flow with these established transshipment terminals and proposed transshipment terminal at GNI.

Syama Prasad Mookerjee Port Kolkata (SMPK) under the Ministry of Ports, Shipping & Waterways (MoPSW) is the implementing agency for the project. As per the DPR for ICTP, the initial phase is projected to have about 4.3 MTEUs of traffic by the end of 6 years and around 16.2 MTEUs for the horizon year of 2058. The DPR has projected employment of about 1700 people in the first phase with an overall projection of employment of about 3800 beyond final phase implementation (beyond 2058).

FIGURE 4-1 : CONTAINER PROJECTIONS FOR PROPOSED ICTP AT GNI



Source: DPR for Development of ICTP at Galathea Bay, Great Nicobar Island

4.2 Tourism and Entertainment

Unlike the rest of the Andaman Islands, Great Nicobar Island is still isolated from the rest of the country and globe. At best, there have been sporadic efforts at tourism, but these have been largely disconcerted and till date there is no visionary comprehensive policy to tap the vast unexplored potential of this Island. Pristine virgin beaches for tourism, lush evergreen rainforests, scenic hills and resort type farmlands dot this trekking paradise of India, which have a strong tourism potential, which can act as the strong pillar of economic development in Nicobar Islands. The developments in the Great Nicobar Island such as the ICTP and the international airport will serve not only the local population but also all the adjoining islands. Due to its proximity to international island destinations like the upcoming Senang City, the Phuket and Langkawi Islands, the development of GNI would put Andaman and Nicobar on the map of global tourist destinations.

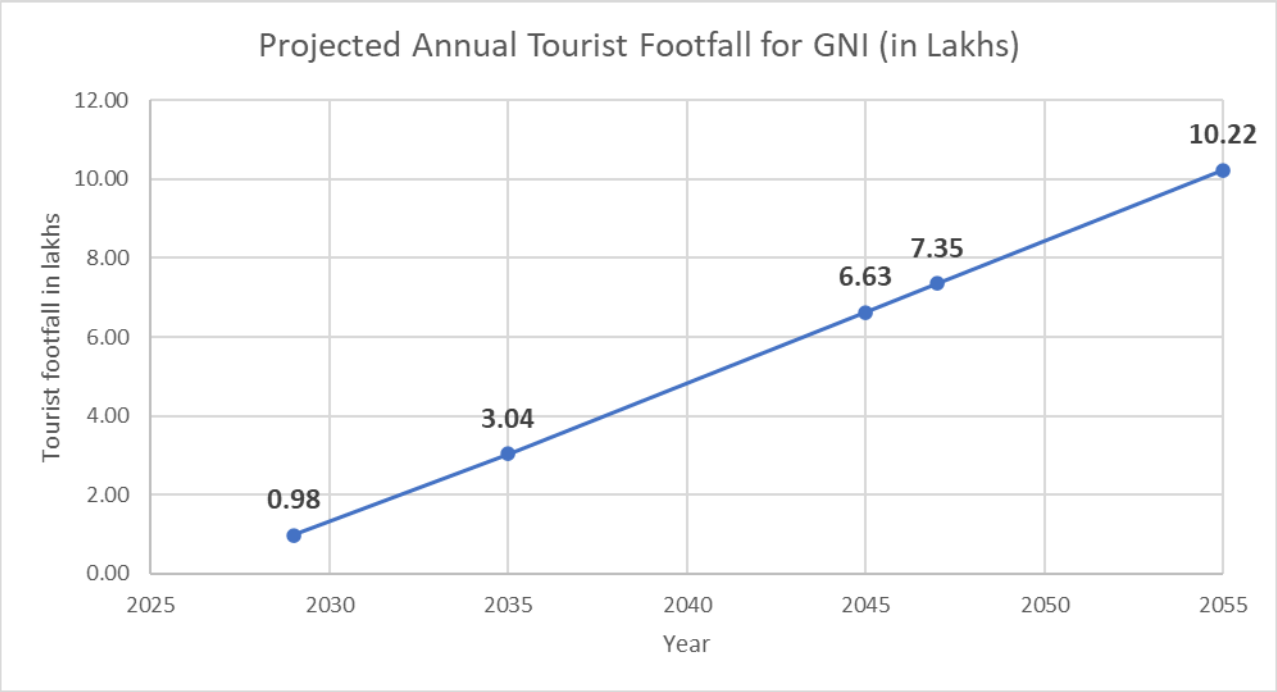
Thus, Nicobar Islands, with its exotic landscape, has great potential to be developed as an international tourist destination. Presently, Nicobar has minimal tourism given restrictions on protected areas and permits to international tourists. With the proposed development scenarios like better connectivity, e-visa, visa on arrivals, removal of restrictions on permits to international tourists, etc. it is expected that the region will attract a greater share of tourists from all over the world.

During the initial phase of development of GNI, development of tourism industry is expected to be slow, with higher participation from the domestic market. However, as the connectivity to other countries improves, it is expected that the share of international tourism will also increase gradually.

As per the study executed by NITI Ayog for the 'Holistic Development of Great Nicobar in the Andaman and Nicobar Islands', A&N islands have witnessed the growth rate of ~12% of tourist arrival for a period of 6 years (2013-18). With regard to GNI, the study has projected the tourist footfall of about 1 lakh per annum as airport goes into operation in 2029. The study has also projected that the

Great Nicobar will experience high annual growth rates initially at 11% which will taper down to about 8% over the period of next 15 years. The tourist footfall is predicted to reach a figure of ~4.4 lakh tourists p.a. by 2040 and 10 lakh tourists p.a. by 2051 as per the projections in the study. In addition, the trends in tourist footfall for tourist island destinations like Seychelles, Mauritius, Maldives, St. Lucia etc. have also been examined as part of the benchmarking of tourism sector. A summary of the benchmarking of these islands with regard to growth trends of tourist footfall and the employment generation is enclosed as Annexure I. In addition to the island destinations, tourism growth patterns and the drivers for tourism have also been examined for port cities/countries including Singapore & Hong Kong (countries), and Busan & Dubai (cities) and included as part of Annexure II. The projected tourist footfall for GNI is given in FIGURE 4-2.

FIGURE 4-2 : PROJECTED ANNUAL TOURIST FOOTFALL FOR GNI



Source: Consultant's analysis

Presently around 97% of tourists in the Andaman and Nicobar Islands are domestic tourists. The trend of the high percentage of domestic tourists is likely to continue till the facilities of international standards are developed for attracting international tourists. Some of the facilities and interventions needed for attracting international tourists to GNI are:

- Providing direct international connectivity with selected countries in neighbourhood
- Developing hotels and other tourist infrastructure with international standards
- Conserving the ecological character of GNI
- Promoting beachfront development along the coastline
- Providing e-Visa and Visa on arrivals facilities
- Enabling policy framework for enhancing tourist inflow

Thus, the Great Nicobar Island is envisioned as a seaside destination to relax and enjoy in a pristine, un-spoilt and protected environment. There are variety of programs that can be organized to give tourists a taste of local culture and life, like:

1. Wellness Tourism for relaxation, rejuvenation, retreat and lifestyle management
2. Beach Tourism including water sports, sunbathing, beachside entertainment activities
3. Nature and Biodiversity Tourism covering mountain trails, picnic spots
4. Adventure Tourism including activities like hiking, trekking, rock climbing, bungee jumping, skydiving, paragliding, and scuba diving.
5. MICE/ Business Tourism covering corporate retreats, conferences, conventions etc.
6. Gaming Tourism ranging from competitive gaming to cultural immersion and themed entertainment through digital and Esports
7. Family Entertainment including discotheques, theme parks, amusement parks, water parks etc.

The GNI is envisaged to offer a range of tourism opportunities for the visitors as mentioned above. The existing beaches suitable for promoting coastal tourism activities spreads across a length of nearly 10 kms and has an area of about 60 hectares which can be further increased to almost double including the areas falling within CRZ along the coastline where no development activities are permitted.

There are large number of hillocks spread across a development area falling under the category of deemed forest with an area of nearly 888 hectares which can be developed to promote nature and biodiversity tourism. In addition, about 50-60% out of the total diverted forest area of nearly 122 sq. km provides another window for developing nature and biodiversity tourism activities.

The adventure tourism activities can take place on the seaside as well as the hill areas referred for nature and biodiversity tourism herein above. The MICE/business tourism activities are going to be predominantly concentrated in the hotels/ resorts/ hospitality facilities spread across the island.

The Gaming tourism activities can also be promoted across the island as part of the hospitality facilities, recreational places/ grounds/ stadiums, theme parks, beach areas etc.

The family entertainment activities in the form of discotheques, theme parks, amusement parks, water parks etc. can also be planned across the island. A broad assessment of the size and type of activities in theme/ adventure parks across different tourist destinations has been made and the findings of the same are summarized here under:

- The land requirement for theme and adventure parks of small size ranges between 0.2 to 1 hectare featuring activities like obstacle courses, zip-lining, and unique games, alongside traditional amusement park rides, water activities, and cultural experiences. The other attractions like trampolines, pottery making, animal encounters, and cultural shows are also provided for a diverse day of fun.
- The land requirement for medium size theme parks ranges between 1 to 5 hectares which offers a mix of thrill rides, water park fun, and family-friendly activities like themed play areas, escape rooms, cultural experiences, interactive animal encounters, shows, and performances. The other activities often featured in such parks include tech-based attractions like VR games and simulators, plus dining and shopping experiences.

- The area under various large size theme parks across the globe ranges between 20 to 120 hectares, such as Universal Studios Singapore of about 20 hectares, Ferrari World Yas Island, Abu Dhabi of about 70 Ha, and Hong Kong Disneyland Resort of about 126 hectares. However, there is no limit to the extent of area for ultra-large theme parks such as the Disneyland Resort in Anaheim, California, covering about 200 hectares housing two theme parks, three hotels, and the Downtown Disney District, while the much larger Walt Disney World Resort in Florida spans approximately 10,000 hectares with four theme parks, water parks, hotels, and more.

The small and medium sized theme/adventure parks can come up across the island in different nodes/ clusters as per the availability of consolidated land that can be offered to the interested promoters and developers of such parks. The large theme parks of 10–20-hectare range can also come up in these areas by assembling/ amalgamation of land parcels. The ultra-large category of parks could be planned only as part of the diverted forest land parcels.

4.3 Finance Hub

By virtue of a transshipment port being developed, Great Nicobar Island is envisioned to become a trade and commerce hub with requirement of large number of services such as banking, insurance, logistics handling, security, and other support services. Considering port activities require allied financial support on the island, a financial hub is proposed to be developed on the island. The establishment of banking and insurance services will be essential to support Port activities as well as meet the financial services needs of the incoming population and other activities that will result from the proposed developments. The financial hub could include Maritime Finance, MICE facilities, Data Centers, FinTech Incubation facilities. In addition, considering the emergence of tourism activities in GNI, the finance hub would also attract offices related to tourism industry.

For defining the scale of Finance Hub, an assessment has been made for major financial centers/hubs for Port cities in the South Asia region including Singapore, Busan (South Korea), Dubai (UAE), and Hong Kong. In addition, the emerging Fin-tech city in India i.e. GIFT city has also been studied. The parameters considered for the port cities include year of establishment, total TEUs (in million) handled by the port and the port area. The finance cities in these study areas have also been studied considering the total land area, built-up area for office spaces and retail/residential, type of offices/ activities, nature of development in terms of FAR/FSI planned. Annexure II provides the summary of the data pertaining to components referred herein above for the 5 locations studied. The study of these financial centers provides the following learning points:

1. The financial centers are part and parcel of the central business district areas in case of Singapore (300 hectares including 3.5 hectares of Marina Bay Finance Centre) and Hong Kong (170 hectares) which also cater to the office requirements of activities linked to Port for these two island nations. In case of Busan, there is a specific parcel of land in close vicinity of the port which has been planned as Busan International Finance Centre (10.2 hectares). Whereas, in case of Dubai, the Dubai International Finance Centre (140 hectares) is planned as an integrated

development catering the needs of Port linked activities as well as other regional level office, retail and residential requirements. The GIFT city in India planned as a Fin-tech city caters to the requirement of office spaces primarily for financial and IT sectors supported with retail and residential components spread across an area of about 359 hectares.

2. The activities planned across various CBDs/ finance centers include financial and banking offices, stock exchanges, professional services firms like law, accounting, and consulting, maritime finance, shipping offices, serviced co-working spaces for think tanks, corporate headquarters, back offices, research & development centers, global delivery centers, shared services, processing centers, support offices, retail, commercial and residential etc. depending on the nature and scale of development.
3. All these CBD areas/ financial centers are planned as high-rise compact developments with global FSI ranging from 1.8 to 3.65, except Busan IFC which is planned with a FSI of nearly 8.0 at the plot level.

Based on the above assessment, the land for finance hub needs to be identified which is suitable for compact high-rise development and located in the proximity to Airport with good connectivity. The land parcel shall be preferably to the extent possible in the ownership of government. Considering the learnings from the case studies of finance centers mentioned above, an area of 15-20 hectares shall be reserved for development of offices, retail and hospitality facilities. The finance center would also need to be supported by activities like housing, social and recreational amenities to promote compact high-density development designed on principles of walk to work. Therefore, it is proposed to earmark an area of about 40-50 hectares for supporting use. The land reserved for office space is proposed to be planned and designed with a global FSI of 2.5, that would translate to an average of 8-10 floors of development. This would broadly align the proposed finance center with the centers of Busan International Finance Centre (BIFC) and Marina Bay Finance Centre in Singapore. This scale of development would be required over a period of next 30-35 years, which would need to be planned upfront for phased implementation. The finance center would not only cater to the activities supporting ICTP but would act as a Central Business District for GNI in long run and meet the GNI level demand for office and retail spaces.

4.4 Knowledge Hub

The island has an exquisite quality of nature ecosystem which is not found in any other part of the country and is unexplored to this day. The proposed holistic development of the islands presents an opportunity to study this biodiversity, endemic fauna and flora and interface of ocean and green tropical evergreen forests. In this context, GNI is proposed to be positioned as a high-end knowledge and innovation hub for promoting research in the niche areas of marine, tropical, ecological, environmental and mineral sciences. It can act as a living laboratory for blue economy, tropical ecosystems, climate resilience, and island technologies. The Knowledge hub is envisaged to integrate research campuses, science centres, and training institutes leveraging the island's biosphere and the vastly spread Indian ocean. The research institutions modelled on leading offshore marine laboratories and observatories focusing on marine biodiversity, fisheries management, coral

restoration, coastal hazards, biotechnology, tropical life sciences and ocean observing etc. could be promoted. The development of museum/ interactive galleries showcasing oceans, climate, biodiversity, biotech, and space could be promoted to attract tech-savvy experiential tourists.

Though the Knowledge Hub is envisaged primarily as a hub for research and innovation, certain activities towards specialized training and skilling could also potentially be attracted in medium to long-term. The areas for training and skilling would include specialised institutions for maritime, tourism & hospitality, port & shipping management and biotech-linked services etc., integrated with its emerging tourism and wellness economy.

The benchmarking exercise has been carried out looking at research and training institutions like National Institute of Ocean Technology in Chennai, National Institute of Oceanography in Goa, National Institute for Plant Biotechnology in Delhi, and Central Institute of Fisheries Education in Mumbai to assess the scale in terms of campus areas, and number of researchers/students and employees. The key findings from these case studies are:

1. The area of the above-mentioned institutions ranges between 6 hectares to 30 hectares with an average area of about 14 hectares to cater the requirements of research institutions and residential accommodation for researchers/ employees.
2. The number of researchers in these institutions ranges between 160 to about 400 with an average of about 270 researchers/students per institution.
3. The number of employees in these institutions ranges between about 50 to 200 with an average of 120 employees per institution.

Similarly, the benchmarking exercise has also been carried out for skilling institutions like Indian Institute of Hotel Management in Kolkata and Lucknow, Indian Institute of Tourism and Travel Management (IITTM) in Gwalior, International Maritime Academy (IMA) in Chennai, and The Indian Maritime University (IMU), Kochi to assess the campus areas, students and employees. The key findings from these case studies are:

1. The area of the above-mentioned skilling institutions ranges between 1.2 hectares to 10 hectares with an average area of about 5 hectares to cater the requirements of training institutions, hostels and residential accommodation for employees.
2. The number of students in these institutions ranges between 180 to about 300 with an average of about 236 students per institution.
3. The number of employees in these institutions ranges between about 45 to 100 with an average of 60 employees per institution.

A summary of the case studies for research and training/skilling institutions is enclosed as Annexure III. Considering the nature of activities envisaged as part of Knowledge Hub, with focus on research and skilling, the Knowledge hub in GNI needs to be sited in areas which are secluded from the core tourism areas and the proposed urbanization in the island. An area of 40-50 hectare is proposed to be reserved considering the long-term potential that can accommodate about 5-6 research institutions with an area ranging from 5-10 hectares and 2-3 training and skilling institutions with an area ranging from 2-5 hectares. The areas proposed for these institutions would include areas for

institutions, residential staff quarters, hostels/serviced apartments for students/researchers and associated facilities.

The institutions are expected to demonstrate and execute the necessary measures of sustainability such as use of solar power/ renewable energy sources, rainwater harvesting, and retaining the existing tree cover and water bodies. The Knowledge Hub is envisaged to be a low-density development with a global FSI of not more than 1.

4.5 Wellness Hub

The Great Nicobar Island, India's southernmost inhabited land, with its remote location away from the mainland in the Bay of Bengal make it a unique destination for relaxation and seclusion from the stressful urban living. The island's pristine tropical forests, covering over 90% of its total island area, tropical climate (24-32°C year-round) and endemic biodiversity (with 200+ bird species and rare flora) provide a pollution free environment for rejuvenation and natural healing. Its untouched beaches offer opportunities for profound nature immersion therapies. The status of GNI as UNESCO Biosphere Reserve can facilitate marketing the location globally. These unique features provide a leverage for development of a wellness hub as part of the overall tourism strategy in GNI.

The Wellness hub is envisaged to focus retreat and rejuvenation using Ayurveda, Yoga, Naturopathy, and other traditional forms of therapies/treatments. The rare species of plants present on the island also provides an opportunity for research in the Ayurveda and other forms of traditional treatments. The activities like herbs plantation and organic farming can also be promoted for research and innovation as part of wellness hub.

For assessing the scale, nature of activities, likely inflow of visitors, manpower requirements, and locational setting, benchmarking has been carried out considering the wellness hubs at Como Shambhala Estate, Bali Indonesia, Kairali Ayurvedic Village, Kerala, India, Santani Wellness Resort, Kandy, Sri Lanka, Atmantan Wellness Resort, Pune, India, and AmaTierra Retreat & Wellness Center, Costa Rica. A summary of the same is enclosed as Annexure IV. The benchmarking exercise translates into the following findings:

1. The size of wellness hubs ranges between about 3 hectares to 46 hectares with an average of about 20 hectares.
2. The Wellness hub is envisaged to require spaces for activities like:
    a. Open-air shalas for yoga, pranayama, and guided meditation in natural setting
    b. Hydrotherapy pools and spa for ayurvedic massages as part of naturopathy
    c. Curated adventures like forest trails for mindful walks, bird watching treks, and cycling paths fostering mind-body reconnection in a chemical-free environment in a forest setting
    d. Organic farm-to-table kitchen sourcing from island produce,
    e. Diagnostic labs for integrative care
    f. Lifestyle management for urban professionals for weight control via naturopathy diets, yoga for diabetes/hypertension, and Homeopathy for chronic issues

g. OPD/IPD facilities for medical treatment through traditional treatment forms covered under AYUSH like Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homeopathy.
h. Training and capacity building for teaching staff, medical officers and other paramedical staffs working in the educational institution and AYUSH hospitals/ dispensaries.

3. The duration of stay ranges between 3 to 28 days with an average stay duration of 10 days.
4. Majority of the wellness hubs have accommodations of 20-30 rooms with an exception of Atmantan Wellness Resort in Pune, India which has 100 rooms. The annual visitor/patient count ranges from 1000 to 5000 people which translates to an average of 2500 visitors per annum.
5. The employees in these wellness hubs ranges between 100 to 300 which an average of about 200 employees for each wellness centre.
6. One of the common features in all these wellness centres is that they are away from the urban centres and located in quiet and peaceful natural environment.

Based on the learnings from the above-mentioned cases, the wellness hub in GNI needs to be located in areas closer to natural environment and away from the proposed urbanization in the island. An area of 40-50 hectare is proposed to be reserved considering the long-term potential. In addition to the wellness hub activities, the residential staff quarters, guesthouses/ eco-resorts for visitors and associated facilities like kitchen/mess are envisaged to be an integral part of the wellness hub.

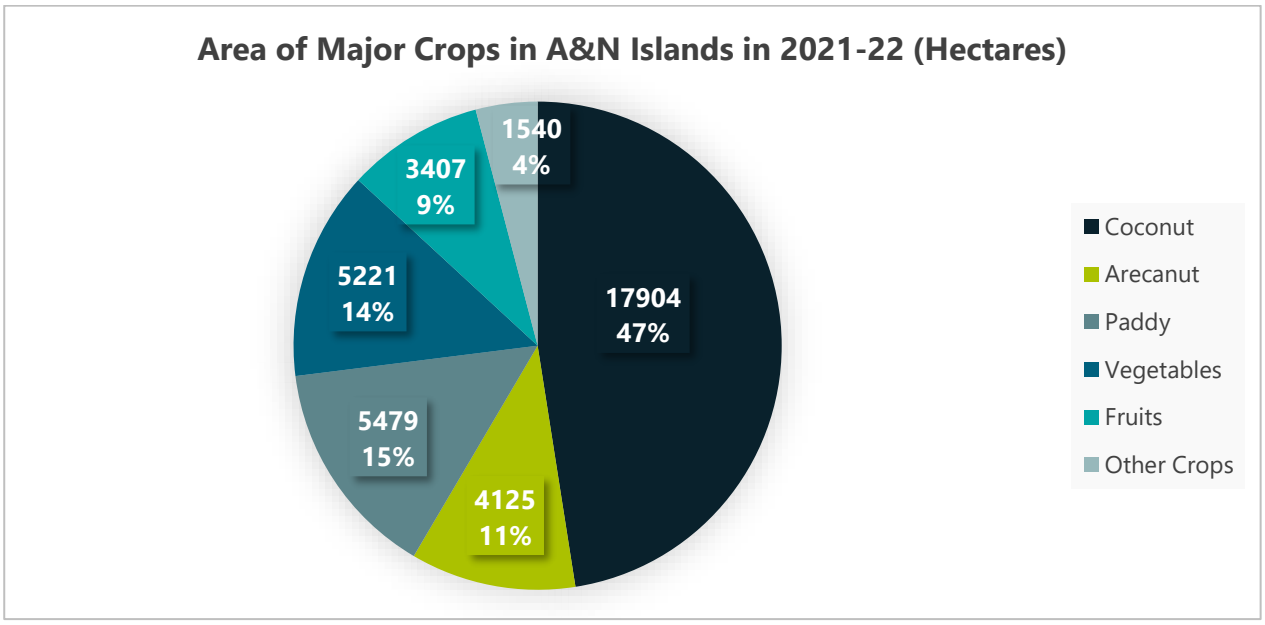
The Wellness hub shall adhere to the guidelines for eco-tourism focusing on zero plastic, green building certification, use of solar power/ renewable energy sources, rainwater harvesting, and retaining the existing tree cover and water bodies. The wellness hub is envisaged to be a very low-density development with not more than a global FSI of 0.5.

4.6 Other Economic Drivers

4.6.1 Agriculture

As per Basic Statistics on Agriculture for the year 2021-22 issued by Department of Economics and Statistics, A&N administration, the total area under crops in Andaman and Nicobar Islands is about 376.76 sq. km, which is about 4.5 % of the total geographical area of A&N islands i.e. 8249 sq.km. Paddy, the main food crop, is mostly cultivated in Andaman group of islands and account for nearly 15% of the total area under agriculture. Coconut and Areca nut are the cash crops of Nicobar group of islands, and collectively account for nearly 58% of the total area under agriculture.

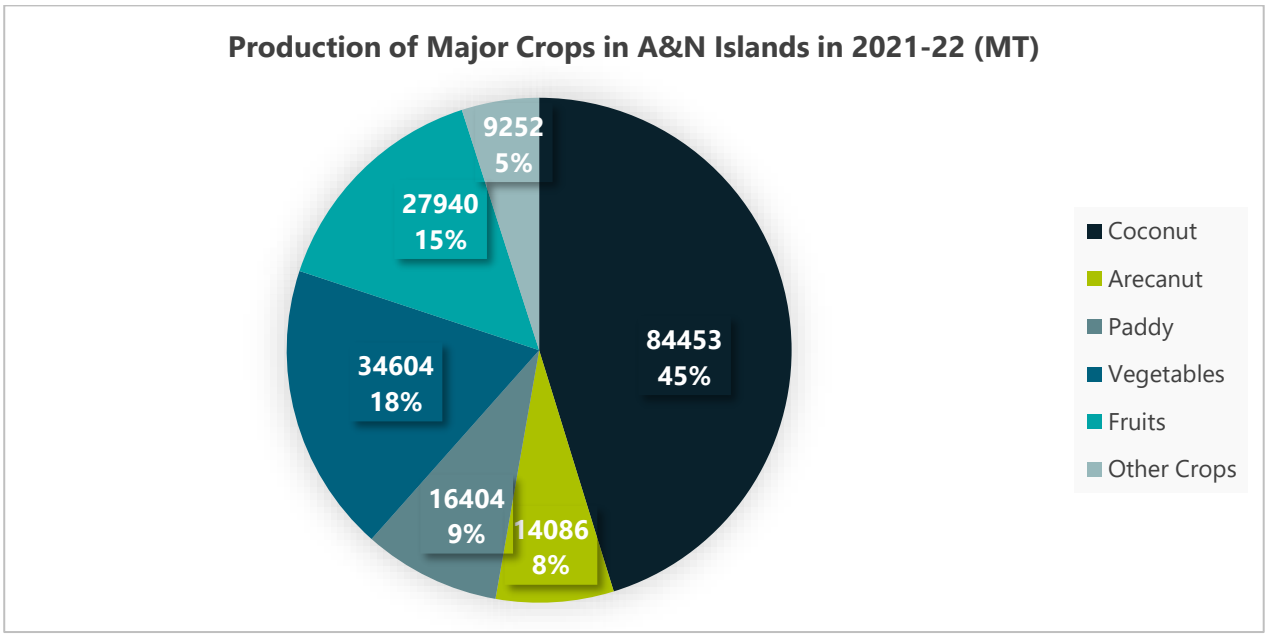
FIGURE 4-3 : AREA OF MAJOR CROPS IN A&N ISLANDS IN 2021-22



Source: Department of Economics and Statistics, A&N administration 2021-22

The production of major crops in A&N islands is given in the diagram below, which broadly aligns with the share of land under different crops.

FIGURE 4-4 : PRODUCTION OF MAJOR CROPS IN A&N ISLANDS IN 2021-22



Source: Department of Economics and Statistics, A&N administration 2021-22

Out of the total revenue area (about 45 sq. km) of seven revenue villages in Great Nicobar Island, only about 4.15 sq. km (9.2%) is the net area sown and the total cropped area in GNI is about 4.80 sq. km. It clearly shows that only a very small percentage of sown area (15.6%) is being used for multi-cropping. Out of the total cropped area, only about 1.98 sq. km is being used for food crops while about 2.81 sq. km is being used for non-food crops.

Agriculture on Great Nicobar Island is dominated by coconut cultivation, with other crops like banana, papaya, and spices also grown, often through subsistence farming. The climate is favorable for plantation crops, but low coconut productivity is a challenge due to unproductive and senile

palms, inferior genetic base, poor soil conditions, rainfed nature of crops, high palm density, poor management and inadequate plant protection measures. The other challenge in agriculture is the unavailability of suitable agriculture land and vulnerability of island to climate change, with unpredictable rainfall patterns and cyclones causing crop loss.

Besides the limited potential of agriculture in GNI, certain agriculture lands have been conserved especially where the existing agriculture/private lands fall:

i. under ICRZ, where no other development activities are permissible.
ii. around the major streams to act as a buffer between the urbanized area and the streams to minimize the impact on natural streams.
iii. in the proposed wildlife corridors for facilitating movement of wildlife between forest and the seashore, as defined by ZSI as part of the EC.
iv. where there is an existing dense plantation and the area does not have the potential for promoting tourism or other activities due to slopes/site constraints.

The above context clearly signifies that the potential for agricultural production in GNI is limited to plantation crops like Coconut and Areca Nut, which also require strategies that enhance productivity on these lands. Considering the limited potential of agriculture, provisions are required to be made to promote activities other than agriculture in these farmlands like poultry farms, eco-resorts, farm-stays etc.

4.6.2 Processing

Considering the small size of population in the island and limited connectivity to the mainland, there are very few small-scale processing units in GNI. The development of Airport, ICT Port and Township would generate demand for processing activities/industries even to meet the local demand. The potential of processing units in GNI is illustrated here below:

A. Agro-based processing

The produce from these agricultural lands, especially coconut and areca nut, can be processed and utilized for local consumption. The GNI has the potential to develop the following key industries in the agro-sector:

Coconut Processing:

Coconut processing involves various activities like harvesting, dehusking, deshelling, and drying the meat. The processed meat can then be further processed into items like desiccated coconut, coconut oil, milk, and cream, while other parts like the husk and shell are used for products like coir, charcoal, and activated carbon. The husk and coir pith are used to make products like rope, mats, brushes, and organic manure, which will have strong local demand during township development and for tourism sector.

Areca Nut:

In the Nicobar group of islands, the Areca Nut is grown in an area of about 225 hectares and the total productivity is around 95.6 MT per year, which translates to 424 kg/Ha against the average

productivity of about 3,415 kg/ Ha in the entire A&N islands and highest productivity of about 6,200 kg/Ha in Andhra Pradesh. The production in the existing area of Areca nut plantation can be substantially increased by improving nutrient and water management, pest and disease control, and adopting modern farming techniques. With increased production, certain opportunities for small processing units would be generated.

B. Fish Processing

Due to very small size of population in GNI and its distant location from the mainland, there is no data available specific to fishing currently being done on the island. The present situation reflects underexploited potential and limited mechanization with minimal marine fish landings and reliance on traditional crafts by indigenous Shompen and Nicobarese communities. However, the sea offers large opportunities for fishing which can be translated into a sound economic driver for GNI even considering the local demand in future.

In terms of Fisheries, Great Nicobar has huge potential for Oceanic Tuna, which is virtually unexploited, and offers ample scope for deep sea fishing. The average consumption of fish per capita is 114 kg per annum in Andaman Nicobar Islands, highest in the country, against 89 kg in Lakshadweep Islands and 13 kg at national level. Considering the nature of consumption per capita in future, the total demand for GNI would be to the tune of about 29,000 MT by 2047 and about 38,000 MT by 2055. The way to leverage the potential of the fishing industry on Great Nicobar is to build jetties for more boats to operate, increase storage capacity, and invite larger companies to come to GNI and invest in growing the business.

The average land requirement per metric tonne of fish production annually has been estimated at 23 sqm for small scale units. Considering the overall demand of 2047 and 2055 referred above, the total land requirement for fish processing units works out to be around 20 hectares and 26 hectares respectively including built-up area for processing halls, cold storage, and utilities. In this context, the total land area requirement including circulation, mandatory greens and other amenities would work out to the tune of 40-50 hectares.

C. Poultry Farming

Similar to the fish processing, poultry farming could also be encouraged as an industry in GNI at least to meet the local demands in future. The average per capita egg consumption in Andaman and Nicobar Islands is 341 eggs per person per annum. Considering similar egg consumption levels in GNI, the total demand for eggs is estimated at 87 million for 2047 and 114 million for 2055. Even to meet the local demands of eggs, the land requirement for poultry farms is estimated at 15 hectares for 2047 and 20 hectares for 2055 including caging areas and ancillary activities. The poultry farm activities can take place in organized processing areas as well as a supplementary economic activity for farmers in agriculture farmlands.

D. Service Industries

In addition to the above industries, the proposed developments at GNI would require setting up of various service sector industries such as Stone Crushers, Printing Press, Ship Repairing, Waste

recycling, Sawmills, Iron and Steel Fabrication Industry, Automobile/Mechanical/Electrical/Electronic Repair and Service centers. The service industries can come up in mixed-use zones as well as planned processing areas depending on the scale and nature of service industry.

4.6.3 Defence

GNI, being a geo-politically strategic location, has defence establishments on the island. Considering the overall importance of GNI in the Indian Ocean Region (IOR), it is anticipated that the defence establishments would be further strengthened and would contribute to the economy of GNI.

4.7 Population Projection

4.7.1 Resident Population

The Great Nicobar Island, with its existing population of 7500 as per Census 2011 and an estimated population of about 9000 in the current year, the island will grow because of the induced initiatives by the government in various sectors of economy as already explained in Section 4.1 to 4.6. The growth of Great Nicobar Island is envisioned to rest on the development of world-class infrastructure through government investments in the initial stages.

The development of the island shall be led by multiple economic anchors, which shall include:

1. International Container Transshipment Port (ICTP) and Logistics
2. Tourism (Hospitality, Gaming & Entertainment Hub)
3. Processing
4. Wellness Hub
5. Knowledge Hub
6. Finance Hub
7. Defence
8. Airport
9. Power Plant

As the project area will witness the development of economic drivers, there will be demand for workers, which would translate into the resident population in the island. The population would constitute several employees from Direct and Indirect employment and dependents. Direct employment for each sector is estimated based on the benchmarks and trends of economic development in and around the country. Employment in tourism is estimated through an estimate of the expected tourist arrivals.

This section presents estimates of forecasted population and employment based on assumptions as per the industry norms. To estimate the employment opportunity, a detailed study has been undertaken to establish benchmarks for the study of projects of similar nature.

The assumptions for assessment of direct employment in the above sectors are as follows:

1. The employment projections for Port are based on the data received from Syama Prasad Mukherjee Port Trust (SMPK).

2. The projections for annual tourist footfall and the employment from Tourism sector (estimated at 4.28% of annual tourist footfall) as per the benchmarking of developed islands with well-developed tourist infrastructure like Seychelles, Mauritius, Maldives, St. Lucia etc.
3. The projections for direct employment numbers for Processing, Wellness Hub, Knowledge Hub, and Finance Hub are based on benchmarking of various developments of similar nature across the region and adopting values closer to the GNI context.
4. The employment projections for Airport, Defence and Power Plant are based on the data received from the agencies concerned.
5. Indirect employment has been considered as 1.5 times the direct employment in the sectors above based on the experience of greenfield development projects across the country. Indirect employment would include activities to support direct employment and the dependent population such as education, health, retail commercial, recreational, home support and safety services etc.
6. With the migration of both skilled and unskilled workers to the project site, dependents are also expected to eventually migrate. The population for GNI has been estimated considering 60% workforce participation rate due to its locational attributes.

The employment and population projections are shown in Table 4-1.

TABLE 4-1: POPULATION PROJECTION

Activities	**Start Year**	**Base Year (2025)**	**2029**	**2035**	**2045**	**2047**	**2055**
Local Population		9,086	9,374	9,979	10,722	10,872	11,494
Main Activities							
Annual Tourist Footfall	2029		98,001	3,03,797	6,63,134	7,35,001	10,22,471
Direct employment through key economic drivers							
Port	2029		1,918	1,918	2,740	2,740	3,836
Tourism	2029		4,195	13,004	28,386	31,462	43,768
Processing	2029		-	2,518	4,807	5,265	7,096
Wellness Hub	2029	-	-	703	1,342	1470	1,981
Knowledge Hub	2029	-	-	1,004	1,917	2,100	2,830
Finance Hub	2029			4,103	7,834	8,580	11,564
Defence	2029		3,500	6,000	9,000	9,000	9,000
Airport	2029		530	530	530	530	530
Powerplant	2029		100	100	100	100	100
Total Direct Employment			10,243	29,881	56,657	61,247	80,706
Indirect Employment			15,365	44,822	84,985	91,871	1,21,059
Total Employment			25,608	74,703	1,41,641	1,53,118	2,01,765
Total Island Population(@60% estimated workforce Participation)			**42,679**	**1,24,505**	**2,36,069**	**2,55,197**	**3,36,275**

(Source: Consultant's Analysis)

4.7.2 Floating Population

In addition to the resident population, the GNI would also attract floating population in the form of tourists as shown in the table above. The projected annual tourist inflow has been translated to the per day average floating population with the following assumptions:

1. The major inflow of tourists will happen for 180 days in a year due to the long rainfall season on the island.
2. The average stay of tourists has been considered as 4 days.

Considering these assumptions, the projected average tourists on a given day during a tourist season would gradually increase from about 2000 in 2029 to 16,000 in 2047 and to about 23,000 in 2055 as given in TABLE 4-2.

TABLE 4-2 : AVERAGE PER DAY TOURISTS

Year	2029	2035	2045	2047	2055
Annual Tourist Footfall	98,001	3,03,797	6,63,134	7,35,001	10,22,471
Average per day tourists	2178	6751	14736	16333	22722

(Source: Consultant's Analysis)

The environmental impact assessment report carried out the analysis of carrying capacity of GNI and adopted a population projection of 3.32 lakhs by 2052 and has also presented the possibility of expansion if needed in the future. The population projections are broadly in line with the projected population adopted in the EIA.

4.8 Directions for Master Planning

In context of the vision, objectives, economic drivers and projected employment and population numbers for the development of GNI, the Master Plan would need to judiciously allocate the land for various economic drivers as well as supporting activities such as residential, commercial, and social amenities based on an assessment of the space requirements for different activities. Considering the eco-sensitivity of the island, it is proposed to open the areas for development through controlled and phased manner to avoid undesirable intrusion into biodiversity. The plan needs to revolve around the basic pre-conditions of preservation and conservation of ecology and environment and optimal utilization of scare resources like land and water. The long-term development vision for island needs to be kept in mind while allocation of land for various uses and planning the connectivity of various constituents within the island. The flexibility in the development regulations shall be targeted towards achieving optimized utilization of land without compromising on basic planning considerations of identity, safety, environmental impacts, resilience, livability, and quality of life for its residents and tourists.

5 PLANNING CONCEPT

5.1 Development Area Synthesis

The Development Area for GNI is delineated along the east coast of GNI giving it more of a linear profile with the total stretch of about 35km along North-South direction. The width of the development area ranges between about 2km to 8km in the east-west direction except in the southernmost part of the development area where the width is to the tune of about 14km. The western flank and the northern and south-western parts of the development area are predominantly Diverted Forest land, whereas the eastern flank of the development area is predominantly land under revenue villages.

The width of land between coastline on the eastern edge and Diverted Forest area boundary in the revenue villages ranges between about 0.5km to 3.5km with an average width of about 2km. Further, the island is presently connected with the rest of the country through air and water, for which the jetties and the airstrip are located in the Campbell Bay area.

The Diverted Forest land transferred in favour of ANIIDCO has been given with certain terms and conditions including the major restriction of no tree felling in 65.99 sq.km and mandated earmarking of this area as green development. As already mentioned above, the area under Diverted Forest land is predominantly located along the western flank, accordingly, the no tree felling green development area of about 66 sq.km shall ideally act as a buffer between the national parks and associated forest areas inhabited by the indigenous tribal communities and the area to be opened for development under GNI. It is also important to consider the physiographical profile of the development area which also requires limiting the opening up of development area along the western flank due to land with slopes higher than 20 percent, which are unsuitable for development.

As already mentioned in the previous sections, the location for the 3 anchor projects i.e., ICTP, Airport and Powerplant, has already been finalized and all these are located on the southern edge of the development area in close vicinity to each other. A parcel of land on the western flank of Galathea Bay has been reserved for Defence, and the remaining area has been reserved for future development zone. The activities permitted in this zone on the western flank of Galathea Bay shall be limited to the provisions of Environmental Clearance taken for the project. The ecological profile and the sensitivity of the island warrant interventions to take care of the flora and fauna and their inter-relationship with the sea and the land due to existing movement patterns of wildlife and aquatic life. GNI being located along the coast, is governed by the ICRZ and the concept and the plan needs to factor in the CRZ boundaries.

5.2 The Growth Directions

The shape, land profile, land reservations (anchor projects and defense) and the spatial restrictions (no-tree felling zone and ecologically sensitive zone on the western flank of Galathea Bay) applicable in case of GNI Development Area clearly demands to plan the area in an average narrow width of

about 2km along North-South direction. Accordingly, a 55km road corridor starting from the northernmost point of the development area to the southern and south-western end of the development area is planned to ensure smooth connectivity to all the parts of development area. A width of 55m in the corridor has been reserved considering the long-term requirement for traffic and transportation (BRT/LRT) as well as trunk infrastructure (especially, water and power). In addition, an East-West corridor of about 6 km in length connecting the existing jetty area at Campbell Bay with the proposed North-South Road corridor is planned to be strengthened as it forms the backbone for the existing connectivity to the island.

5.3 Development Concept

Based on the skeleton of the Development Area emerging because of various factors and proposed interventions illustrated in the previous paragraphs, the plan of the GNI has been conceptualized based on 4 major development clusters and 2 special reservation zones, spatially spread along the North-South Road corridor. The 4 major development clusters conceptualized include:

5.3.1 Multi-modal Logistic Cluster

The ICT Port and Airport are proposed on the southern edge of the Development Area that makes this area as a future major gateway to the island. Considering the location of these two anchor projects, supporting land side logistics related activities like Transport Terminal for buses and freight is proposed to ensure seamless movement of goods and people to the entire GNI. Accordingly, the cluster has been named as Multi-modal logistics cluster.

5.3.2 Tourism & Entertainment Cluster

This cluster is envisaged in north of multi-modal logistic cluster due to considerations of connectivity, beach areas and suitability of land along the coastline. Tourism is going to be the backbone for development of GNI considering a mix of coastal and eco-tourism potential supplemented with wellness, research and business tourism.

The coastal/ beach tourism and business tourism due to ICT Port would be the major contributors to tourism sector. Different type/nature of tourism activities will be spread across GNI. There are 6 major beaches i.e. B Quarry beach in Campbell Bay, Anderson Beach in Joginder Nagar, Dayarkar Beach and Sunderbai beach in Laxmi Nagar, and Harsha Beach and Gandhi Nagar Beach in Gandhi Nagar. In addition, two stretches of beaches are in Vijay Nagar village, but they are engulfed between the sea and the land under submergence/ water body which makes these less suitable for coastal tourism. Out of these 6 prominent beaches, 4 beaches in Laxmi Nagar and Gandhi Nagar are in continuity with a coastal length of nearly 6kms and are near the proposed Airport. The Anderson Beach (length – 2kms) and B Quarry beach (length – 1.3kms) located in isolated stretches will attract tourist activities independently, however, tourism and entertainment cluster has been proposed close to the Airport with continuous beachfront.

The requirements of office spaces for banking and other trade institutions to support trade and business activities due to ICTT Port, a finance hub has been planned as part of Tourism &

Entertainment cluster itself. The other important factors for siting the finance hub are proximity to proposed ICT Port and Airport and availability of large chunk of contiguous government land. The other clusters will attract tourism activities related to wellness, research, and eco-tourism and accordingly the landuse in other clusters have been proposed to accommodate such activities.

5.3.3 Processing Cluster

This cluster has been envisioned as a buffer between tourism & entertainment in south and Institutional & administrative cluster in north. Processing has been considered as the major activity in this cluster as it is located along the arterial road and has relatively lesser potential for highly intense development for tourism because of degradation of the coastal edge due to Tsunami 2004.

The cluster has concentration of dense plantation areas and the minimal sustenance agriculture happening in GNI due to number of streams & other waterbodies, and hillocks which makes it potentially a suitable location for promoting farm-based and eco-tourism activities. It is also pertinent to note that a large chunk of land around the coastline and water bodies is falling under ICRZ and also under submergence.

The potential for manufacturing and processing activities is limited to agro/seafood based processing and certain small units supporting the development activities like carpentry workshops, stone crusher units, service and repair etc. Accordingly, the land for processing activities has been provided in this cluster. The cluster is in centre of the township and the distribution of local produce and services would be easier from this location.

5.3.4 Administrative & Institutional Cluster

This cluster is planned in and around Campbell Bay due to the presence of the only major settlement and entry point to GNI through existing jetty and airstrip. The entire development is centered around administrative and defence activities in the form of Naval INS Baaz and Army establishments at Campbell Bay. The entire administrative structure for the management of activities in GNI including revenue, infrastructure development, tribal affairs and forest management along with other supporting facilities related to education and health are concentrated in Campbell Bay. All these administrative and defence are predominantly government driven activities wherein necessary residential accommodation and supporting facilities have been developed by government. In addition to the administrative/ defence staff posted in GNI, there are limited inhabitants in the GNI who again are mainly concentrated in Campbell Bay and adjoining villages of Govind Nagar and Joginder Nagar. These people are primarily engaged in agricultural, fishing and small business activities in GNI. Considering the existing nature of developments and nearly 95% of the land under the ownership of government/ its agencies (including defence) in Campbell Bay makes it an obvious choice for development as administrative node.

Govind Nagar revenue village also has about 60% of the land under government/ deemed forest category. The diverted forest land adjoining Govind Nagar village has relatively lesser degree of plantation/trees and is suitable for development. To supplement the port and tourism & entertainment-based economy in GNI, certain additional sectors of economy like health & wellness

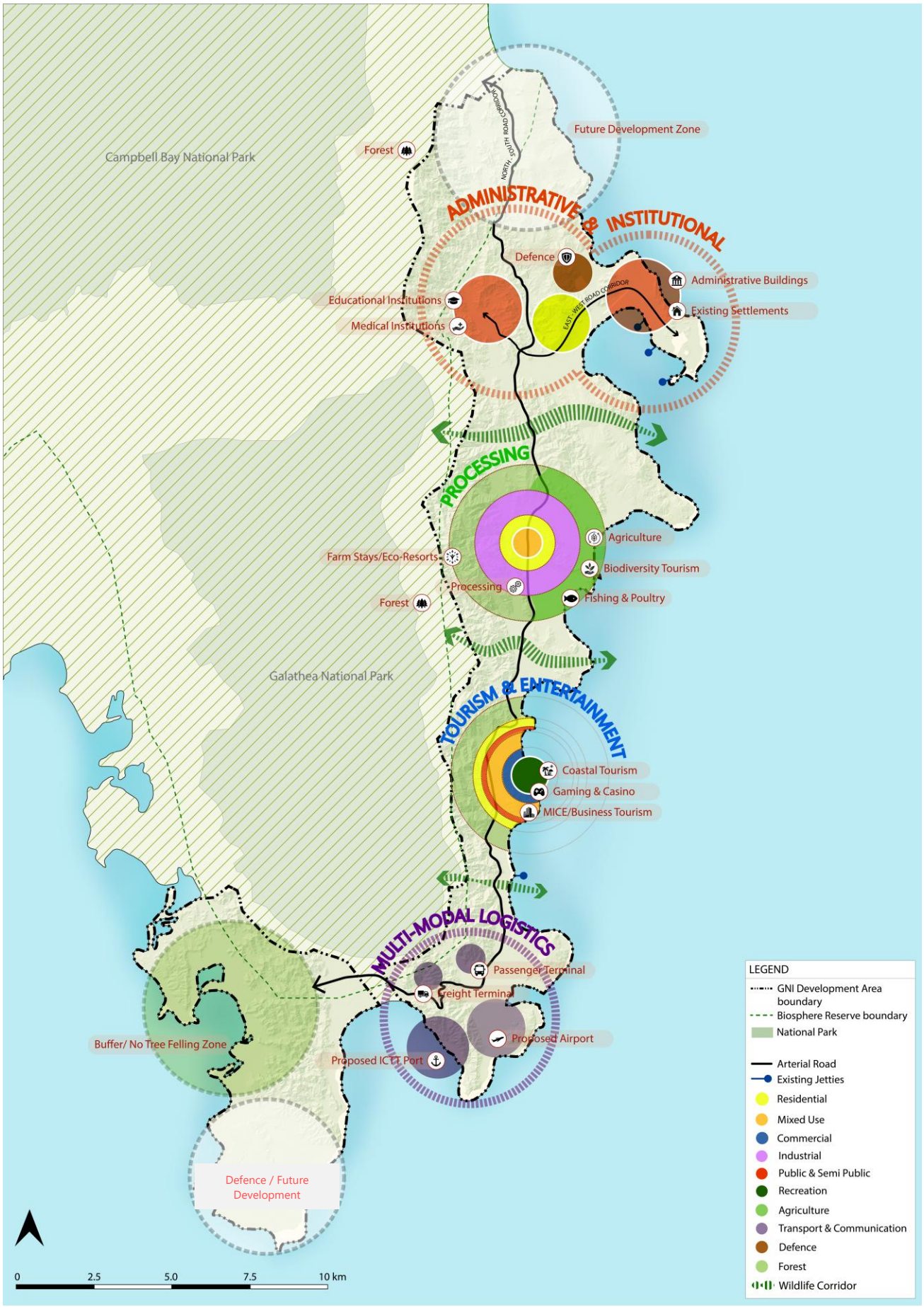
(Wellness Hub) and knowledge & research (Knowledge Hub) are proposed to be promoted. Govind Nagar and its surrounding forest area presents a secluded ambience for promoting Wellness Hub and Knowledge Hub closer to the natural environment and away from the proposed vibrant development in rest of the township. Accordingly, this node would predominantly focus on institutional development.

5.3.5 Special Reservation Zones

- **Defence**
  This zone is envisaged in and around Galathea Bay, which is located in the southwestern part of GNI, due to land allotment to the Defence, restrictions imposed under Environmental Clearance and the ecological sensitivity of the area.
- **Future Development Zone**
  The future development zone is envisaged in the north of Campbell Bay in the Diverted Forest Land and on the western flank of Galathea Bay in the south of development area. The future development zone in the north shall be opened up only once the proposed development area is saturated, especially in light of the carrying capacity, except for certain large-scale projects in the form of international level educational institutions, large adventure/theme parks, wellness centres with relatively lower density developments to minimize the impact on existing ecology of the area. The activities in future development zone earmarked in the south shall be governed as per the provisions of environmental clearance.

The entire planning concept for the GNI development area is depicted in Figure 5-1.

FIGURE 5-1: PLANNING CONCEPT



(Source: Consultant's Analysis)

5.4 Planning Considerations for Clusters

Each of 4 major clusters defined above are further divided into smaller nodes separated by natural features like waterbodies, hillocks and wildlife corridors identified by WWI for the movement of wildlife and aquatic life. It is envisaged to provide wildlife viaducts/ bridges on the proposed North-South Road Corridor, crossing the identified wildlife corridors to facilitate free movement for wildlife and aquatic life in the streams within the Development Area. These buffers between nodes are also envisaged to play a role of a 'Blue-Green Network' to facilitate integration of ponds, retention basins, and wetlands to maintain the biodiversity, create infrastructure for disaster resilience, and regulate the quantity and quality of water that flows through urbanized areas.

These buffers separating the nodes will keep these nodes compact and manageable in size, where walk-to-work and enhanced use of NMT can be promoted. The circulation patterns in each of these nodes are planned in a way to form singular or multiple loops originating from and ending at the proposed North-South Road Corridor.

Each of these nodes planned along the North-South Road Corridor are envisaged to be provided with single or multiple public transport nodes to ensure access to inter-nodal public transport within 500-600m. The areas surrounding the North-South Road Corridor (100m), and public transport nodes (200-300m) are envisaged to act as vibrant, mixed-use and high-density areas. Tourism and economic activities within each node, need to be supported with residential neighbourhoods and community facilities within walkable distances of 400-600m.

At the node level, the Master Plan level road network has been envisioned to include roads of 18m, 24m & 30m, depending on the size of the node, activities planned along the road and the envisaged cross-section of these roads to cater to the requirements of pedestrians and NMT along with vehicular traffic.

The cluster planning has also given due consideration for the natural disasters and hazards like sea level rise, tsunamis by keeping minimal extent of developments along the coastline and leaving adequate buffers to minimize the impact in future. The particular zones/areas along the coastline which were severely affected area during the 2004 Tsunami have been given special considerations while proposing the landuse in the Master Plan.

Considering the vulnerability of the island to various forms of disasters, preventive interventions to minimize the risk needs to be planned through landuse planning. During plan implementation, the community and social infrastructure facilities to be developed shall be designed considering the requirements during disasters. Care shall be taken with regard to the access, ground level, and the anticipated risks while siting these facilities to meet the emergency requirements during disaster.

For providing identity to the nodes, certain high points and scenic viewpoint locations shall be identified from the perspective of placemaking and destination development. In addition, the core area of each node under the Tourism & Entertainment Cluster to be designed considering the urban design principles focusing on gateways, landmarks, focal points and precincts & streetscapes.

6 DEVELOPMENT STRATEGIES & PLAN PROPOSALS

6.1 Approach towards Master Plan

The Master Plan provides direction towards enhancing the local economy and maintaining ecological balance on the island through development strategies.

The Master Plan establishes the extent of land designated for various land use zones, which has been guided by:

- Vision for the GNI
- Location of the key projects like ICTT, Airport, Power Plant and Defence
- Economic drivers and the requirement of supporting facilities like commercial (office, hospitality and retail), recreational/ open spaces (beachfronts/theme parks/adventure parks/eco-tourism spots etc.), traffic and transportation, physical infrastructure and utilities
- Physiographic profile of the Development Area for optimizing land allocations and minimizing impact on the ecology by conserving the densely planted areas as green areas
- Siting land use based on the potential vulnerability of a particular zone/area due to natural disasters
- Statutory & Regulatory Compliances
- Projected resident population and associated demands for residential, commercial and community facilities
- Anticipated number of tourists and associated demand for hospitality facilities
- Demand projections for physical and social infrastructure based on planning and design norms recommended by various planning and infrastructure institutions

The plan identifies the projects to be implemented in a phased manner to guide the growth and development of GNI. The projects identified cover the broad areas of connectivity, physical infrastructure, social infrastructure and tourist facilities for addressing the requirements of resident population as well as tourists.

Development Regulations prescribes the standards for key planning parameters to complement the plan proposals and promote orderly physical development.

6.2 Development Strategies

The existing physical and development profile of GNI and development approach for achieving the plan's objectives has been outlined in the previous chapters based on the outcomes of various studies and surveys carried out under the ambit of NITI Ayog and Ministry of Defense. In addition, the data collected from various other agencies of the Government of India like Census of India, Ministry of Environment & Forest, WWI, etc. and departments & agencies of A&N Administration has been analyzed to derive inferences and evolving a planning concept for development of GNI, as presented in the previous chapter.

Further, as part of the master planning exercise, a stakeholder workshop was also organized involving various agencies of the Andaman & Nicobar administration. Consultations were also carried out with experts from specialized institutions in the field of planning and sustainable development like TERI Delhi, CEPT Ahmedabad, SPA Delhi and IIT Kharagpur. A comprehensive understanding of the past and present development scenario of the island, along with the relevant issues and prospects has been evolved through a consultative process that serves as an important input into the Master Plan.

Based on the above, the development strategies have been evolved for the preparation of the Master Plan for GNI. The development strategies evolved are:

1. The vision for township development shall be evolved through integration of pivotal triggers providing connectivity, economic drivers, infrastructure development and sustainability of the island.
2. Port, Airport and Powerplant will act as catalysts and enablers for promoting development in GNI and require timebound implementation of these projects.
3. Tourism, with a focus on Eco-tourism, will act as a key enabler in the growth and economy of GNI. The development strategies shall be targeted towards enhancing the potential of tourism sector.
4. Besides the key economic driver of Tourism & Entertainment, other potential supporting economic drivers like Wellness Hub, Knowledge Hub, Finance Hub shall be planned as part of GNI.
5. 'Anchor/ Master Developer Model' for various nodes could be explored for development of GNI.
6. The strategies for development of GNI shall be aligned with the carrying capacity and sustainability by optimizing the population planned and land to be opened for development for minimizing the impacts on the ecology of the island.
7. The plan shall encourage a compact development form with optimized utilization of land through medium to high densities in flatter land suitable for development.
8. The development corridor shall be confined along the east coast and the development in Galathea Bay and west coast shall be limited to only the activities permitted as per the Environmental Clearance. Any form of tourism activity shall be restricted along the west coast considering the ecological sensitivity.
9. The predominant developmental activities shall be undertaken in the land under 7 revenue villages. The other potentially developable areas (predominantly slopes lesser than 10 percent) identified in the Diverted Forest Land shall be reserved for future development without any form of development interventions at this stage.
10. The terrain, physiography and eco-sensitivity of the island require limiting the height of the structures; thus, the development regulations shall be oriented towards a low-rise high-density development.
11. The road network shall be planned with a focus on encouraging the overarching vision for a public transportation for inter-nodal travel and NMT/IPT for intra-node movement.
12. The connectivity between Campbell Bay in the North and Indira Point in the South is strategically significant for integrating various potentially developable pockets of land/nodes along the east

corridor of the island. The west coast of the island shall be left untouched due to environmental sensitivity and to avoid any form of disturbance to the indigenous people of the island.

13. The inter-nodal travel system shall focus on the introduction of a micro-bus/ low-capacity bus system in the initial stages which could be converted to a Bus Rapid Transit (BRT) or Light Rail Transport (LRT) system, in the long run. The road network shall be planned and designed to accommodate the BRT/LRT corridor in future.
14. New cleaner, greener, and renewable energy sources should be prioritized in the initial phases and utilization of waterbodies for renewable energy sources like floating solar power plant should be explored.
15. The dependence on surface water from the only river within the GNI Development Area i.e., Galathea River, shall be minimized. In order to meet the water requirements for future, rainwater harvesting reservoirs shall be developed.
16. The drainage system or the series of streams passing through the Development Area shall be protected and no blockage shall be created in these streams. The streams/water bodies shall be provided with a protection green buffer along/around the stream/water body.
17. Community participation shall be made as an integral component of the development process and the governance of township, especially with regard to solid waste management and management of public spaces, to inculcate a sense of ownership and sustainability of the management system and practices.
18. The unique construction and resourcing challenges due to the remoteness of GNI shall be considered while planning and designing the developmental activities.
19. The importance of capacity building and training specifically aimed at ensuring the sustainable construction, operations, and maintenance of the township's infrastructure shall be considered.

6.3 Statutory & Regulatory Compliance Requirements

The statutory and regulatory requirements applicable for GNI Development Area as part of Environmental Clearance (EC), Forest Clearance (FC) and Island Coastal Regulation Zone (ICRZ) regulations also need to be factored in for evolving the development strategies. Few key parameters requiring compliance and having direct bearing on the Master Plan have been mentioned below:

1. Out of the total area proposed for diversion, 65.99 sq. km area will be the area for the Green development where no tree felling is envisaged. In exceptional cases if trees are required to fall in this area, separate permission for tree felling shall be obtained from the Department of Forest Andaman and Nicobar Administration.
2. The arterial road will be developed in a phased matter. In the first phase, 30 m ROW will be utilized and developed, and the balance 25 m ROW will be reserved for future expansion for Bus Rapid Transit (BRT) or Light Rail Transit (LRT). The need for development of remaining 25 m RoW will be reviewed by the project monitoring committee on biodiversity before its construction and after full capacity utilization of 30m RoW and evaluation by CSIR-Central Road Research Institute (CRRI).
3. Directions regarding Western Flank of the Galathea Bay:

- Along the western flank of Galathea Bay no development will be allowed in initial phases except defence related infrastructure or any activity that is strategic and national defence point of view important in nature.
- A buffer of 500 meters from HTL on both sides of the flank shall be maintained.
- Infrastructure related to Gas-based power plant will be allowed near Galathea Bay.
- Tourism will not be permitted along the western flank of Galathea Bay in any phases. Pemayya Bay and all other Leatherback nesting sites on the western parts of GNI must remain no development zones as these sites are likely to be used by Leatherback Sea Turtles as alternate sites due to impact of ICTP at Galathea Bay.
- All major nesting beaches in Great Nicobar Islands including Alexandria Bay, Casuarina Bay, Pemayya Bay, Dogmar will be protected by establishing protection camp, sea turtle hatcheries and kept under 24X7 surveillance and monitoring from nesting till hatching season each year. No development and tourism will be allowed on these shores.

4. Construction activity shall be carried out strictly according to the provisions of the ICRZ Notification, 2019. No construction works other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area. All the recommendations and conditions specified by the Andaman Nicobar Coastal Zone Management Authority (ANCZMA) vide letter dated 8th July 2022 shall be complied with.
5. In the western coast of Galathea Bay excluding the defence installation and power plant, a buffer area of 500 mts from high tide line around Pemayya may be declared as Coastal Protection Area with no development within the area.
6. Safe wildlife corridors at eight (8) locations along the eastern side of the island connecting forest and seashore through via-ducts (elevated crossings) on the north south arterial road shall be provided. In addition to wildlife corridors, culverts and canopy crossings will be provided at appropriate locations for the movement of wildlife. The chainage wise locations of the wildlife corridors have been identified by ZSI and Department of Environment & Forest. The width of the corridor ranges from 250 m to 1100 m and the eastern side of the corridors towards the seashore would be maintained as green area.

6.4 Physical Infrastructure

6.4.1 Water Supply

6.4.1.1 Water Demand

The water demand calculations are based on standards from Central Public Health and Environmental Engineering Organization (CPHEEO) Manual of the Ministry of Urban Development, Government of India and National Building Code 2016. The standards adopted for assessment of water demand are as follows:

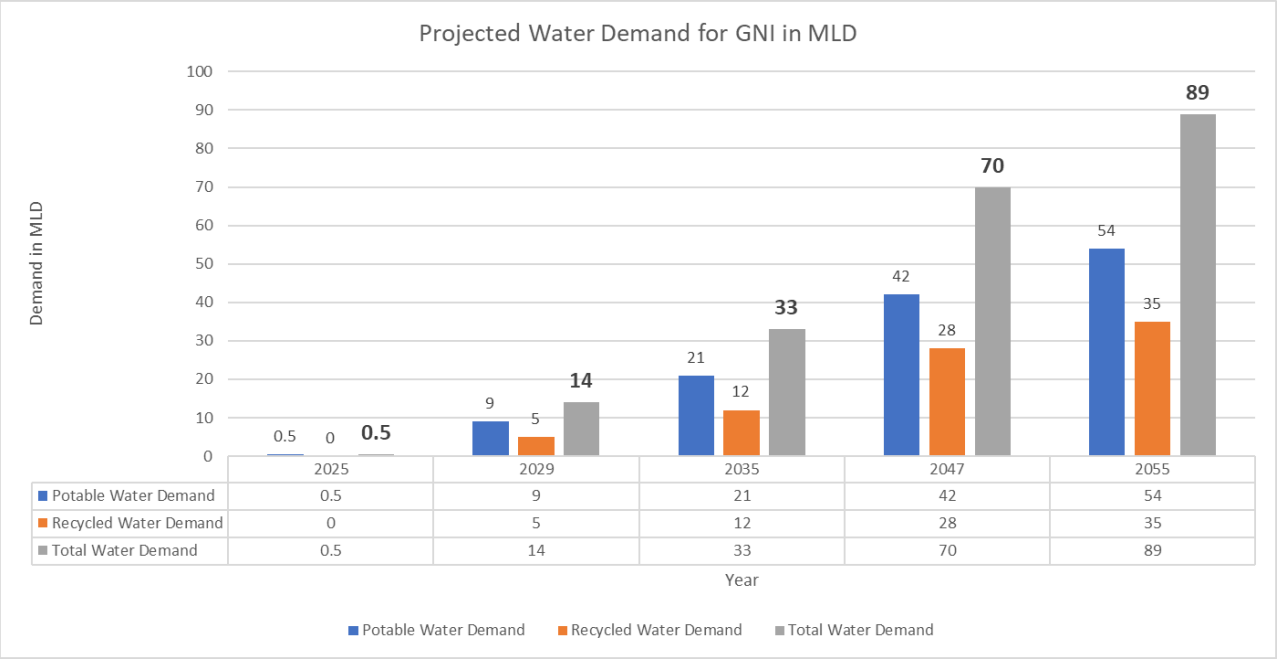
1. Per Capita Water Supply:
    a. Domestic – 135 LPCD (Section 2.2.8.3 (a), Table 2.1, Manual for Water Supply & Treatment (1999), CPHEEO)

b. Hotels – 180 litres per day per bed (Section 2.2.8.3 (b), Manual for Water Supply & Treatment (1999), CPHEEO)
c. Offices – 45 LPCD (Section 2.2.8.3 (b), Manual for Water Supply & Treatment (1999), CPHEEO)

2. Water Requirement for Open Spaces – 5 KL/Ha/day (considering an average annual rainfall of around 3000mm)
3. Water Requirement for Industrial – 15 KL/Ha/day (Based on experience from other industrial areas)
4. Firefighting demand – 100*sqrt(p), where p is the population in thousands (Section 2.2.8.3 (c), Manual for Water Supply & Treatment (1999), CPHEEO)
5. Water Losses (Unaccounted For Water) – 15% (Section 2.2.8.3 (a), Table 2.1, Manual for Water Supply & Treatment (1999), CPHEEO)
6. Infiltration in Sewage Management – 10% (Section 3.6, Manual on Sewerage and Sewage Treatment)

Considering the standards referred herein above and employment & population numbers presented in Section 4.7 over a period of time, the phase wise water demand (potable, recycled and total) for the Development Area has been estimated as depicted in FIGURE 6-1.

FIGURE 6-1 : PROJECTED WATER DEMAND IN GNI



(Source: Consultant's Analysis)

The water demand of 42 MLD potable water translates to 15.3 MCM for 2047 and 54 MLD translates to 19.7 MCM for 2055. Considering 20% losses in storage due to evaporation and other losses, the total demand for storage works out to 18.4 MCM and 23.7 MCM for the years 2047 and 2055 respectively. Considering the rainfall period of 6 months, the effective demand for storage works out to be 9.2 MCM and 11.85 MCM for the years 2047 and 2055 respectively. For meeting these demands, the water sources have been identified as explained hereunder.

6.4.1.2 Water Source

As per the Environmental Clearance for GNI, no withdrawal of water from Galathea River is permitted. Galathea River must also remain free of any recreational activity. Additionally, no ground withdrawal of freshwater will be permitted. Thus, the capacity of drinking water sources will need to be augmented with capacity augmentation of existing freshwater storage facilities and development of 2 new reservoirs at GNI.

The island receives a substantial amount of rainfall, particularly during the southwest monsoon season from June to September (IMD press release, 2024), making direct rainwater harvesting a viable strategy for enhancing usable water resources. These rainfall patterns result in high precipitation levels across the islands, with some areas receiving over 2600 mm of rainfall annually. This abundance of rainfall presents a valuable opportunity to capture and utilize rainwater for various purposes.

To meet the water storage requirements, a total of 8 locations have been identified in GNI Development Area for the development of potable water sources in the form of 2 large reservoirs and 6 rainwater harvesting ponds. The total area reserved for the 2 reservoirs is about 2.12 sq.km and the area reserved for 6 rainwater harvesting ponds is about 0.59 sq.km. All these water reservoirs and rainwater harvesting ponds are proposed to be developed in the Diverted Forest land or land under government ownership within revenue villages.

Based on the hydrological study, the catchment area for the major water sources i.e. 2 new reservoirs (with total catchment area of 21.45 sq. km) has been considered for the purpose of assessment of water storage capacity of these reservoirs. It is estimated that the total yield from these reservoirs would be of the tune of about 21.45 MCM for a conservative scenario with low level of rainfall as given in table below.

TABLE 6-1 : YIELD FROM THE PROPOSED RESERVOIRS

S. No.	Name	Land Area (km2)	Catchment Area (km^2)	Water yield (MCM/km^2)	Total Yield (MCM)
1	Reservoir-1	0.94	10.11	1	10.11
2	Reservoir-2	1.18	11.34	1	11.34
	Total	**2.12**	**21.45**		**21.45**

(Source: Consultant's Analysis)

Though the horizon period for the Master Plan is 2047, the capacity of water storage reservoir has been planned considering the ultimate demand of 2055 i.e. 11.8 MCM. In addition, the other smaller rainwater harvesting ponds including RWH pond at 17km Nala, Chingen Nala, Laxmi Nagar nala, Chima Nala, Swaroop Nala, and near Galathea Bay have also been identified as other potential sources which can be developed if the need arises.

6.4.1.3 Water Infrastructure

Based on the total water demand, Water Treatment Plants (WTPs) with Clear Water reservoirs are proposed to be planned for a capacity of 42 MLD and 54 MLD for treatment of water to meet the demand of GNI area for horizon period of 2047 and 2055 respectively. Water being a scarce resource, its recycling and reuse becomes an essential component of water management practices to promote sustainable development. The water supply system is to be planned and designed on a dual piped

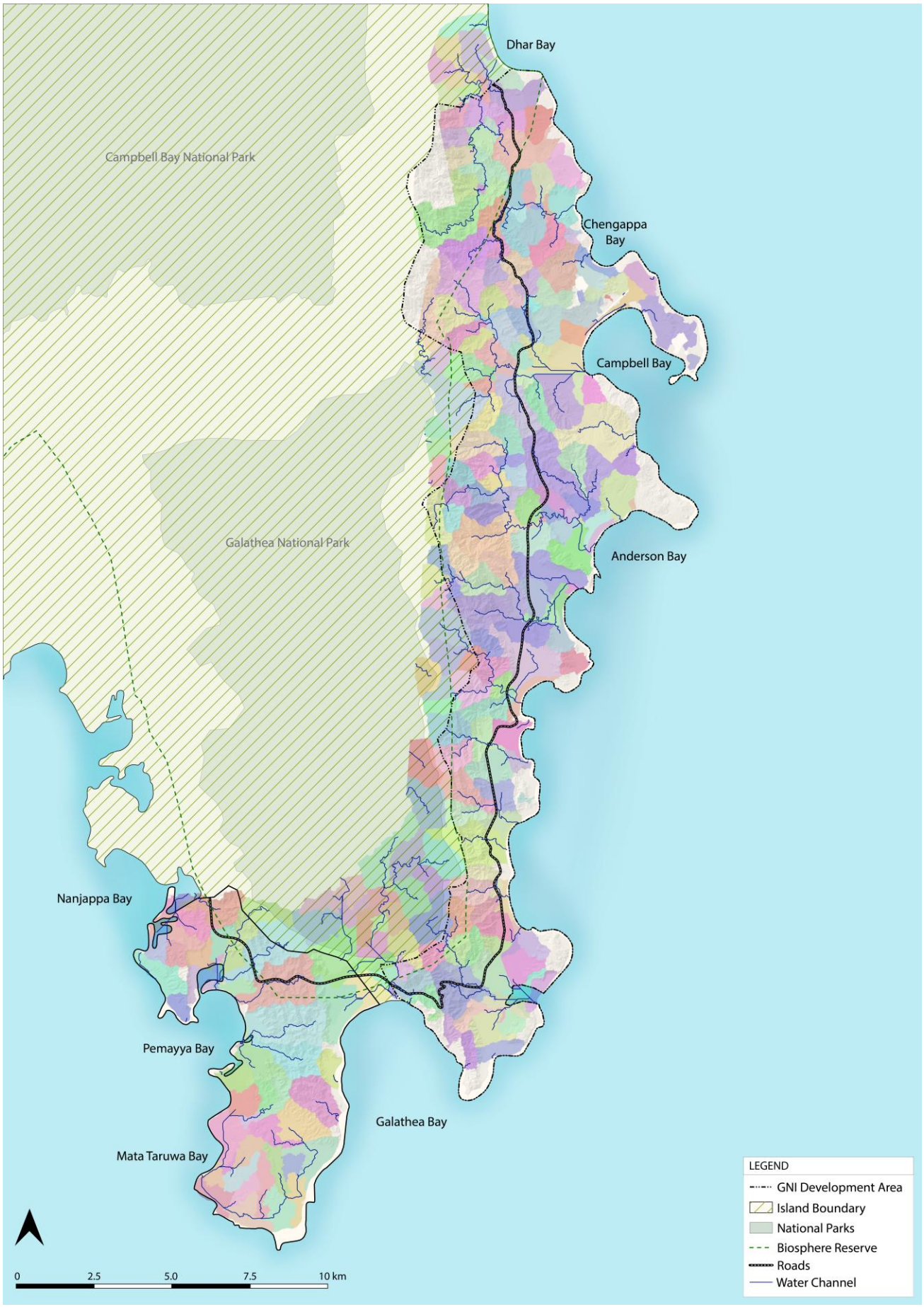
system for potable and recycled water. For meeting the potable water demands, the land has been allocated for water treatment plants at 4 locations to meet the ultimate demand of 2055 (as shown in Figure 6-2).

6.4.2 Drainage

As per the Environmental Clearance for GNI, the natural drain system should be maintained for ensuring unrestricted flow of water. The Drainage Map for the GNI Development Area alongwith catchments is provided in Figure 6-2. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and harvest rainwater. Stormwater drainage is an integral component of both site and overall stormwater management design that involves a combination of hydrology, hydraulics, and water quality.

The proposed stormwater collection systems are designed to ensure adequate surface drainage while also addressing key stormwater management objectives, including water quality improvement, stream and channel protection, habitat preservation, and groundwater recharge. For the proposed drainage development in GNI Development Area, the network integrates the perennial streams and nalas that meet the bays and sea through creeks. The proposed storm drain network can contain recharge pits within their beds at a certain interval for ground water recharge and reducing inundations. Further, surface run-off collected should be diverted to the rainwater harvesting ponds which shall be part of the development and act as rainwater harvesting system to be used as source of fresh water. However, the proposed drainage system will need to be designed to minimize the potential pollution into the bays. All the road networks to be designed with proper stormwater drainage network.

FIGURE 6-2: DRAINAGE MAP

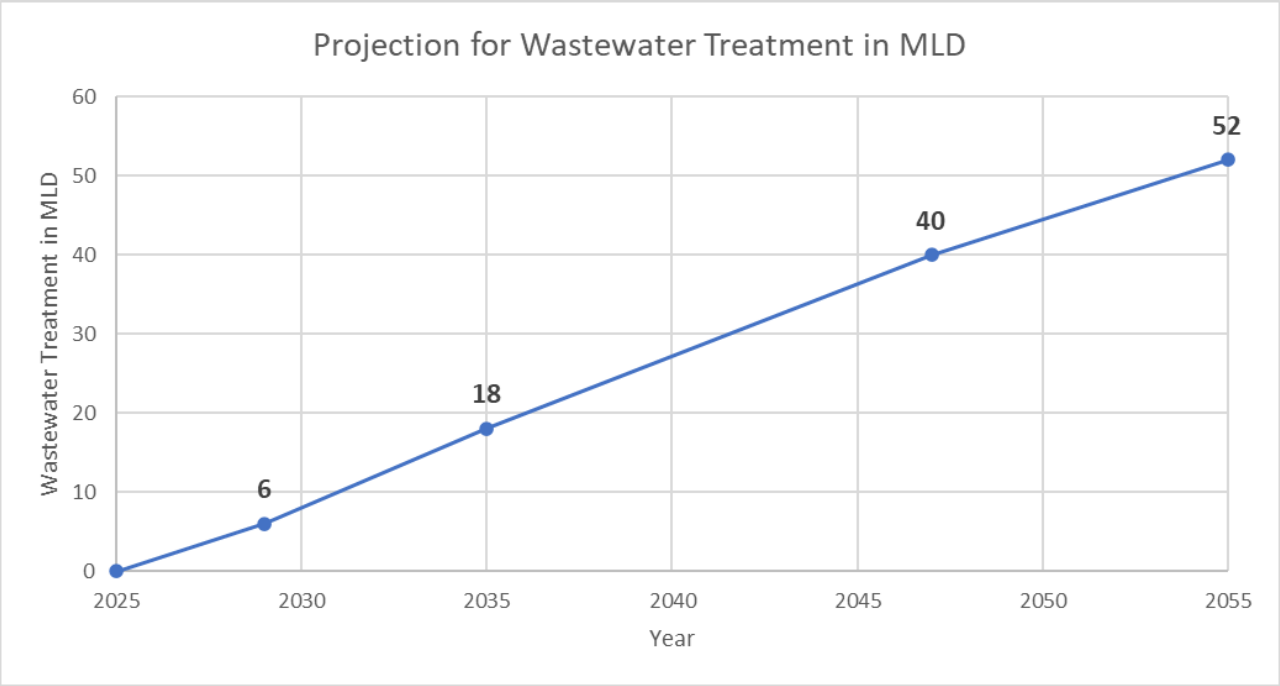


(Source: Consultant's Analysis)

6.4.3 Wastewater Management

The primary objective of wastewater infrastructure planning and design is to provide a sustainable treatment of wastewater and to use recycled water for non-potable usage. Within the GNI Development Area, the total sewerage generation is estimated at 40 MLD and 52 MLD for the year 2047 and 2055 respectively as depicted in FIGURE 6-3.

FIGURE 6-3 : PROJECTION FOR WASTEWATER TREATMENT IN GNI



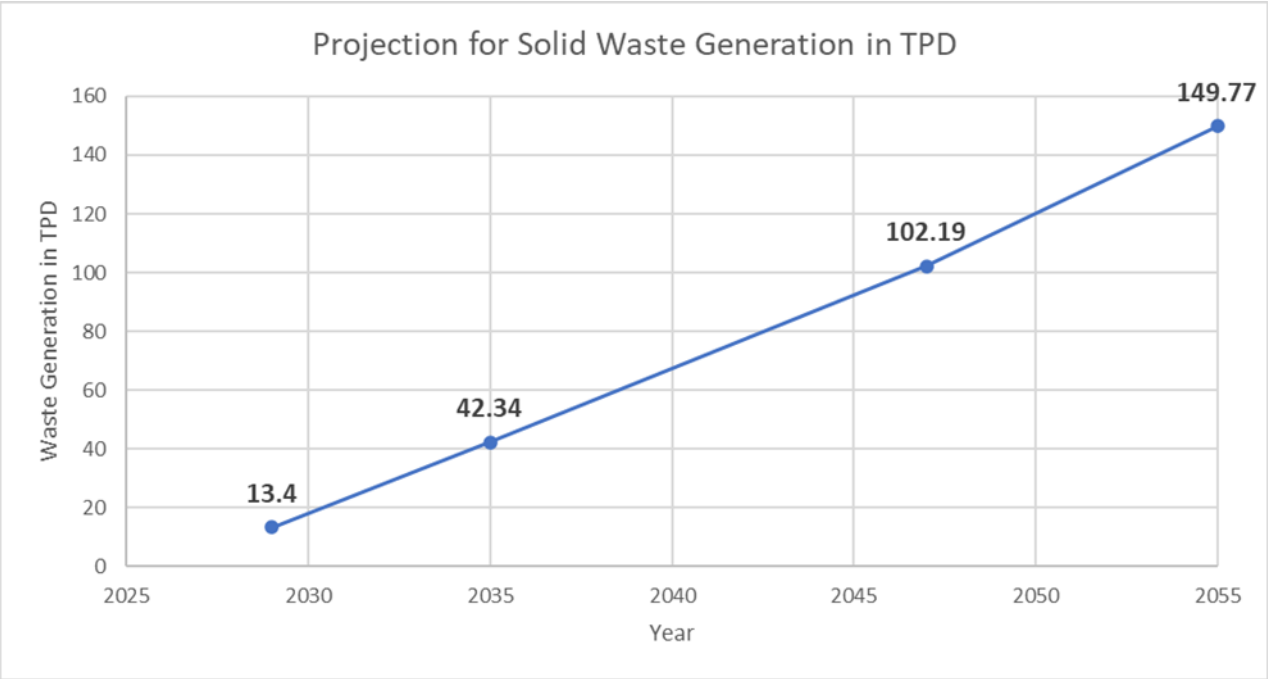
(Source: Consultant's Analysis)

The Development Area has undulating topography with hillocks and valleys making it difficult to lay pipelines and maintain gravity flow for the entire GNI as a single entity. Thus, it is proposed to adopt a decentralized sewer system spread across 6 different sewer zones catered through sewerage treatment plants. The land has been earmarked for 6 STPs in the Master Plan and shown in Figure 6-6. The proposed decentralized location of STPs mitigates longer lengths of the collection system thus mitigating energy consumption as well as cost. The STPs will be developed based on the inlet and outlet parameters with open technology options.

6.4.4 Solid Waste Management

The solid waste likely to be generated includes domestic waste (general and hazardous waste), street sweeping waste, green waste from landscaped areas, industrial waste (hazardous and non-hazardous), biomedical waste and construction and demolition (C&D) waste. The quantity of waste generation has been calculated based on SWM Manual 2016, Central Public Health and Environmental Engineering Organization (CPHEEO) of the Ministry of Urban Development, Government of India. The total solid waste to be generated is estimated at about 102 TPD for 2047 and 150 TPD for 2055 as shown in FIGURE 6-4.

FIGURE 6-4 : PROJECTION FOR SOLID WASTE GENERATION IN GNI



(Source: Consultant's Analysis)

The statutory and regulatory requirements for the GNI Development Area, including the conditions Environmental Clearance (EC), Forest Clearance (FC), and Island Coastal Regulation Zone (ICRZ) regulations, shall also be taken into account for designing the system for management of solid waste. As per the Environmental Clearance for GNI projects, the waste generated during construction and operation period of the project shall be managed as per the prevailing regulations on management of solid waste, plastic waste, e-waste, bio-medical waste, C&D waste and hazardous waste issued in 2016 by the Ministry. The waste shall be segregated and should be recycled/reused as per the regulatory provisions. No Municipal Landfills will be allowed in GNI. All rejects after the recycle/reuse of waste must be transported to mainland for its safe disposal.

The waste shall be segregated at household/ source level for which necessary mechanism to track waste collection and segregation shall be put in place for which the capacity of sanitary workers and awareness amongst the residents would need to be built. The primary collection of the waste through twin compartment garbage tippers shall be adopted for door-to-door collection. The collected waste shall be transported to the nearby Transfer Station for secondary transportation through compactor vehicles. The waste will be transported to Integrated Solid Waste Management Centre (ISWMC) for processing, treatment and final disposal. Wet waste is proposed to be treated through the Windrow Composting method and Dry Waste through Material Recovery Facility. The solid waste management strategy shall focus on minimum inert waste as it would need to be transported outside the GNI to mainland for land filling as per the environmental clearance.

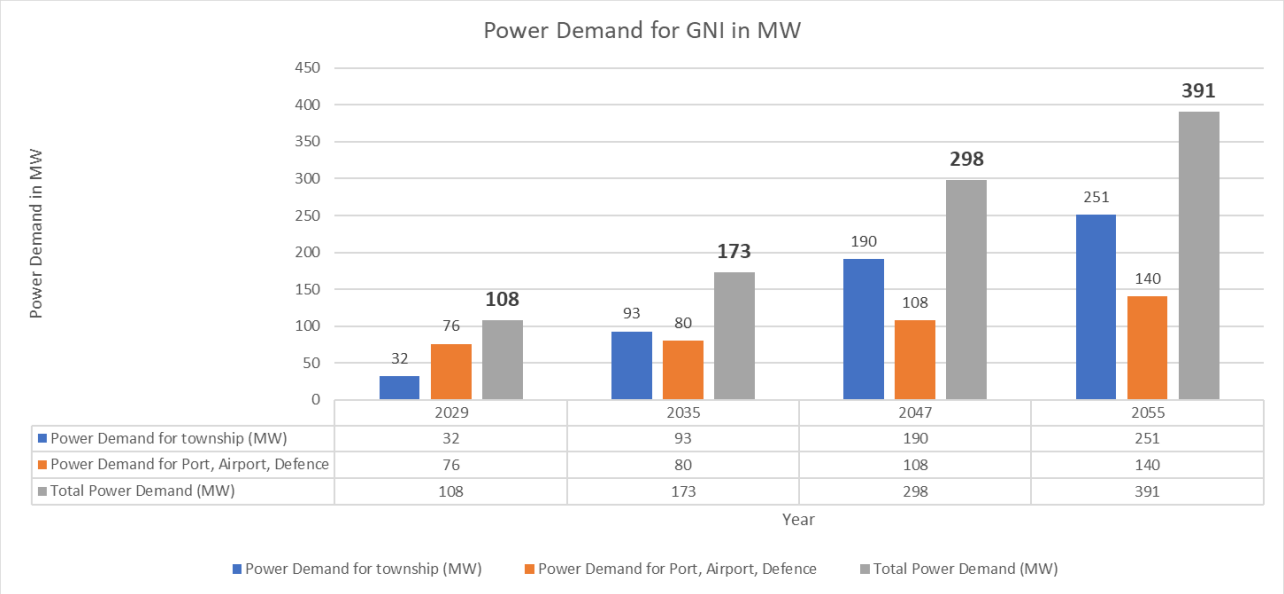
For construction and demolition waste generated during construction phase, the authority shall make necessary arrangements to monitor recycling and reuse of C&D waste in-situ to the maximum extent possible and make provisions for intermediate waste storage facility as per the C&D waste guidelines. A dedicated Storage facility for e-waste and Battery waste shall be developed as part of the overall ISWMC, which shall be handed over to authorized vendor for processing & disposal. The

biomedical waste will be collected as per biomedical waste handling rule 2016 and disposal facility will be established within the premises of proposed Government hospital.

6.4.5 Power

The power demand for township has been estimated as per the 'Guidelines for Substation and Power Distribution System of Buildings 2019' by CPWD and guidelines issued by discoms of other states have also been referred for the purpose of assessment. In addition, the power demand for Port, Airport and Defence provided by the concerned project proponents/ agencies has been considered. The power demand of the island including Port, Airport, Defence and Township is estimated at about 300 MW for 2047 and about 400 MW for 2055, within the GNI Development Area, as shown in FIGURE 6-5.

FIGURE 6-5 : POWER DEMAND FOR GNI



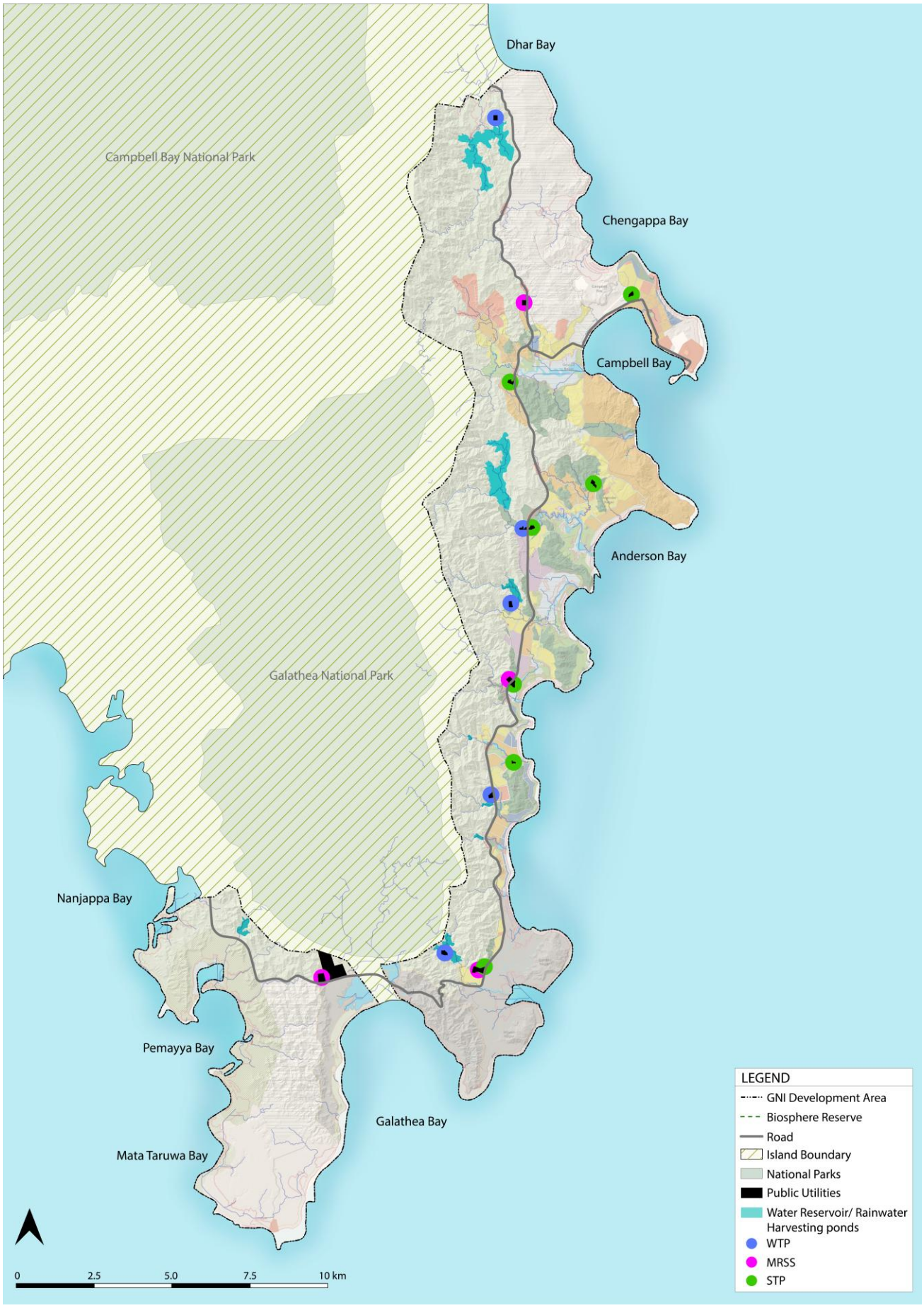
(Source: Consultant's Analysis)

As per the Environmental Clearance for the GNI projects, , power demand shall be met through Diesel Generators (DG) for the first 5 years of the project. During this period, construction and commissioning of 50MVA gas-based power plant and floating solar power plant in water reservoirs shall be undertaken. The combined installed capacity to 90 MVA through diesel and gas-based power plant will be further augmented by 20 MVA through first phase of solar power from 6th year. During subsequent phases, the power generation shall be augmented to 220 MVA with 150 MVA contributed through gas-based power plant with augmented capacity and 70 MVA through solar power generation. The capacity of gas-based power plant shall be increased to 300 MVA and solar power plant shall be increased to 100 MVA for meeting the power demands in future.

The LNG based Gas engine power plant along with the associated transmission system would need to be built to meet the power demand. The power transmission line of 132 KV shall be built as underground network for meeting the requirement of initial phases of development which could be upgraded in a phased manner as the demand grows. The 132 KV underground cable network will be planned along the arterial road and the necessary space allocation within the Right of Way of arterial road shall be made.

To achieve reliable & quality power supply, the transmission network would require development of three GIS substations (132/33 KV) at Gandhi Nagar, Vijay Nagar and near Govind Nagar for stepping down and distribution of power in addition to one 132/33 KV substation within the Power Plant at Galathea Bay. The land has been allocated in the Master Plan for siting these substations. The distribution system for each node shall be designed based on the landuse and the power demand norms and all the power distribution network lines shall be planned using underground ducts.

FIGURE 6-6: PROPOSED PHYSICAL INFRASTRUCTURE



(Source: Consultant's Analysis)

6.5 Social Infrastructure

6.5.1 Health Facilities

The master plan envisages the establishment of 1 general hospital, with a capacity of 500 beds (to be started with 100 bed facility and upgraded in phased manner) for the entire GNI Development Area. The government land admeasuring about 6 Ha has been identified and reserved under PSP use, in Laxminagar village, along the alignment of North-South Road Corridor. The existing CHC located at Campbell Bay is proposed to be upgraded to a 100-bedded hospital within the existing campus which has adequate land as per the norms. In addition, existing Public Healthcare Centers in various villages are proposed to be strengthened and upgraded to accommodate at least 25 to 30 beds with facilities of maternity home and childcare. The minimum requirements for the health facilities in the development area have been established based on the Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines.

In addition, the proposed Wellness Hub will include the development of an AYUSH hospital with traditional medical systems of treatment. This facility is envisaged to attract medical tourists for wellness & rejuvenation, lifestyle management and medical treatment. Further, the health facilities in the private sector would evolve over a period once the island reaches a critical mass for the viability of such facilities.

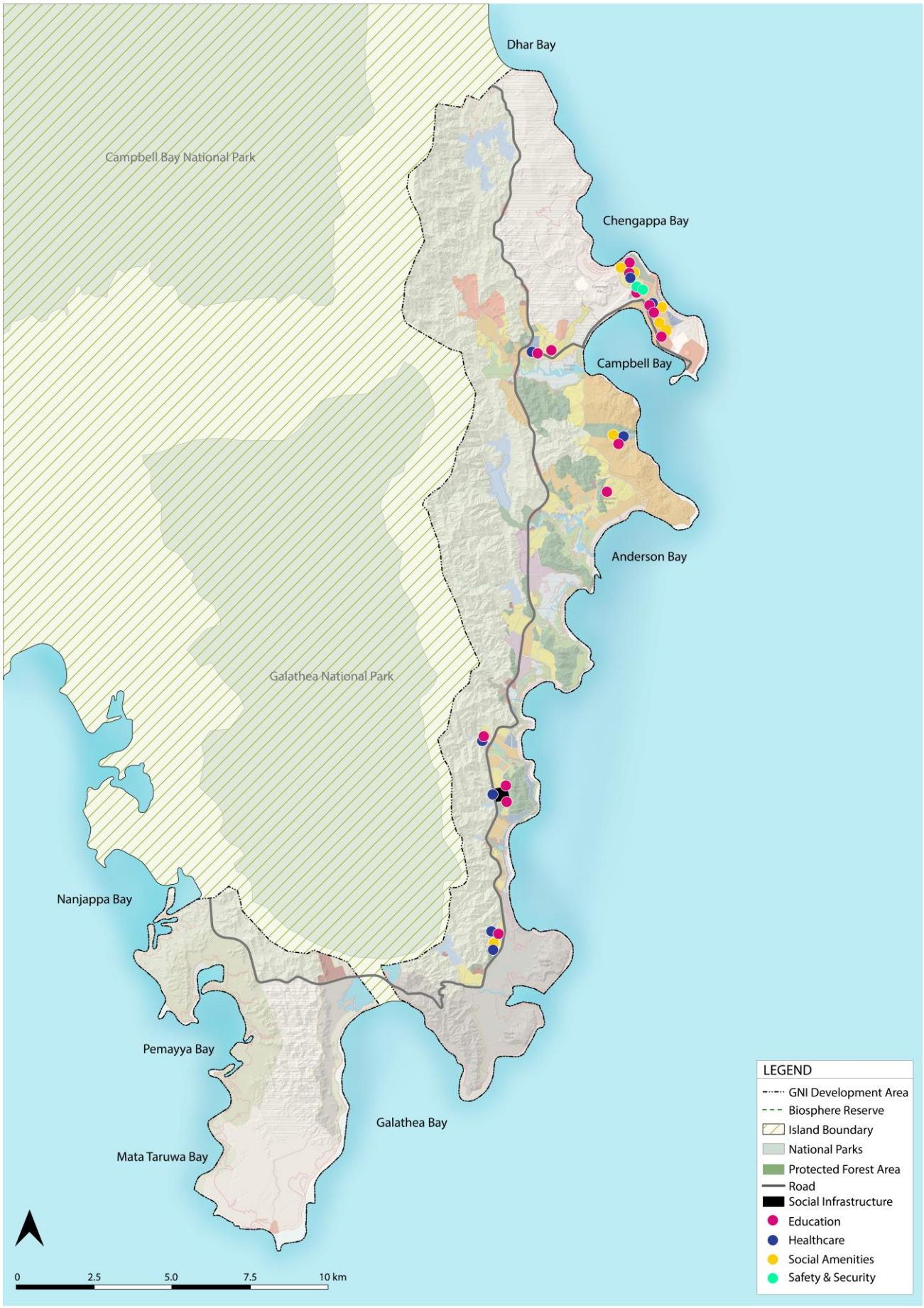
6.5.2 Educational Facilities

The availability of existing educational institutions is adequate to support the existing population and initial influx of population during the initial phase of anchor projects and trunk infrastructure development. As the connectivity to the island improves and the population grows, additional facilities will be necessary to accommodate the requirements of the growing population.

Based on the minimum area requirements for the educational facilities as per the Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines, the master plan has reserved land for the establishment of 1 Integrated School of about 3.5 Ha near the upcoming Port and Airport. Further, it is envisaged that each of the nodes proposed would require 1 Senior Secondary School, the land for which shall be allotted out of the government land parcels in the uses where Senior Secondary School is permissible as per the Development Regulations, based on the demand. The area for Senior Secondary Schools and other lower-level educational institutions shall be as per the norms of the Education Department of A&N Administration or URDPFI guidelines of the Ministry of Urban Development, Government of India in case Education Department does not provide specific norms for area. The Senior Secondary Schools could also be established by upgradation of existing schools through allocation of additional areas to ensure that each institution has designated playfields and parking areas.

To address the growing demand for higher education, the Master Plan has reserved an area of about 5Ha for setting up a college in GNI Development Area. Additionally, the skill-oriented institutions for specialized professional fields are envisaged to be attracted through private sector investment in the long run, as part of the proposed knowledge hub.

FIGURE 6-7: PROPOSED SOCIAL INFRASTRUCTURE



(Source: Consultant's Analysis)

6.5.3 Recreational Facilities

The GNI Master Plan envisages broadly 4 categories of recreational infrastructure including:

- Beachfronts
- Active green spaces comprising of Cluster/Node level parks and multi-purpose grounds
- Passive recreational spaces comprising of hillocks, forests and mandatory green buffers along streams and wetlands
- Sports and playground facilities

These recreational facilities have been distributed across the development area under the land-uses of Recreational Use, Parks & Open Spaces, Beach and Area for Green Development (No tree felling zone) and have been reserved predominantly within land under government ownership to meet the aligned requirements.

Based on the Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines, the master plan proposes to promote smaller level parks, grounds, and recreational/ sports clubs at each development node which would be vibrant places for social gatherings, picnics, exhibitions, fairs, festivals, jogging, children's play areas and sporting events. Neighbourhood level parks & open spaces shall be provided as per the Layout & Subdivision Regulations under Development Regulations. The hillocks and forest lands in GNI are proposed to be retained in their present form and will play a very critical role for eco-tourism. Similar treatment is proposed for wetlands and green buffers along streams where minimal human intervention is envisaged to avoid any conflict with wildlife and aquatic life corridors. The land earmarked as beaches in the landuse plan shall be predominantly no development zone with only a limited set of tourist facilities such as public toilets, changing rooms, temporary kiosks may be permitted.

Recreational clubs and sports centres are also proposed to be developed within the land earmarked for Recreational landuse. The specific parcels for these activities are proposed to be allotted in future as the township grows. The Sports centers will offer facilities for various sports, including indoor arenas, swimming pools, and fitness areas. Collectively, these initiatives aim to create vibrant, inclusive spaces that cater to diverse recreational needs and enhance the overall appeal of the island as a tourist destination.

6.5.4 Socio-Cultural and Community Facilities

The master plan envisages the development of socio-cultural facilities to enhance community engagement and promote cultural activities. Based on the Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines, the Master Plan proposes the establishment of 1 socio-cultural center at each development node, featuring a community hall, mangalkaryalaya, or a barat ghar/library, along with enhancements to existing community halls across the island. Each facility is proposed to be allocated a space of about 0.5 Ha. The land for socio-cultural facilities is proposed to be allocated under the Mixed/Commercial/PSP landuse, out of the land parcels under government ownership. These socio-cultural centers will serve as hubs for local events, workshops, and programs that celebrate the region's cultural heritage while also accommodating modern community needs for social functions, meetings, performances and get-togethers to make these

centers financially viable. The other community facilities like religious buildings, crematoriums, burial grounds/graveyards, have been retained as per the land reserved for these activities in the revenue records or as per the existing land use on the ground.

6.5.5 Safety Management

Based on the Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines, the master plan emphasizes the importance of safety and security management by proposing the establishment of 3 police stations and 3 fire stations at strategic locations, including one each at Tourism & Entertainment Cluster, Agro & Processing Cluster and Administrative & Institutional Cluster.

6.6 Connectivity to the Island and Transportation in GNI

6.6.1 Airport

The Great Nicobar Island International Airport (GNIIA) is one of the major infrastructure projects under the project 'Preparation of Master Plan for Holistic Development of Great Nicobar Island in Andaman & Nicobar Islands' envisaged by the Govt. of India. The strategic Airport is being developed as a dual-use military airfield (refer Figure 3-4). Given its geographical context, the airport at Great Nicobar Island will serve not only the local population but also all the adjoining islands. The airport will also have locational advantage due to its proximity to international island destinations like the upcoming Senang City, the Phuket Island and Langkawi Island. Thus, apart from strategic needs, the airport will ensure ease of connectivity and hence present a great opportunity for tourism-oriented development that would put Andaman and Nicobar on the map of global tourist destinations as well.

The proposed site for the airport is located along the sea between Gandhi Nagar and Shastri Nagar area on the southern side of the island. The site is accessible by a road connecting Galathea Bay to Campbell Bay at approximately 30 kms from Campbell Bay. By 2040, the total expected air passenger traffic is around 1.35 million annually, which is expected to increase to 17.5 million by the year 2075. In the initial years of operation of the airport, it is expected that 100% of the passengers would be from domestic routes and international travelers will pick up as tourism on the island matures.

6.6.2 Upgradation of Existing Jetties

GNI is projected to attract approximately 1 million tourists annually, of which 5% (or 50,000 tourists) could be drawn through water route. This would require strengthening of the existing jetties and upgradation of associated facilities including passenger terminal building. The terminal building will include key passenger amenities, administrative facilities, customs and immigration services, as well as souvenir shops and dining options. Furthermore, a range of tourism products and services should be developed in the vicinity, including onshore and water-based activities, hotels, attractions, and shopping facilities, to enhance the overall visitor experience.

In the Southeast Asian cruise tourism market, Singapore commands approximately 73% of the market share, with around 10% of annual tourists arriving by cruise. GNI has the potential to serve

as an attractive stopover for cruises navigating the Bay of Bengal or Andaman Sea, with destinations such as Phuket, Klang, and Singapore on the itinerary in long run. The feasibility for Cruise Terminal as part of the proposed ICTP or as an independent project would be taken up in future as the basic connectivity to the island through air is established and the tourist inflow to GNI reaches beyond a figure of 5 lakh per annum.

6.6.3 Circulation Network within GNI

The proposed transport system of the township includes road networks and transport terminals to cater for freight and passenger movement. These are aligned with the key projects of Airport, ICTP, Power Plant and Defence, to ensure accessibility and efficient movement of goods and people.

The road system is proposed to be designed to support the island's potential as a prominent tourist destination with wider footpaths/sidewalks and cycle tracks. To improve accessibility and mobility, the master plan proposes a hierarchical road structure with varying Right of Way (ROW) widths: 55m, 30m, 24m, and 18m (refer Figure 6-8). The 55m ROW N-S road of 44.7 kms, extending from northern edge of the development area to the south and southwestern ends of the development area, is proposed to serve as the primary arterial road, connecting all major nodes and clusters. A width of 55km for the corridor has been reserved considering the long-term requirement for traffic and transportation (BRT/LRT) as well as trunk infrastructure (specially, water and power). The existing alignment of N-S connectivity has been amended in certain sections considering the potential risks during disaster. An effort has been made to keep the alignment as far away from the coast as possible since this road will not only form the backbone of GNI but also act as the most critical link for any emergency response during disaster. The alignment of this road has also been optimized to reduce excessive cutting and filling of ground, based on detailed topographical LiDAR data of the development area done by Ministry of Defence and reconnaissance survey to assess the ground conditions and potential challenges. The new arterial road, envisaged as a strategic road, is designed for a speed of 40 km/hr and suitable vertical gradient with maximum gradient being 6%. In addition, 30m ROW East-West corridor of about 6km in length connecting the existing jetty area at Campbell Bay with the proposed N-S road corridor is planned to be strengthened as it forms the backbone for the existing connectivity to the island.

At the node level, the Master Plan level road network has been envisioned to include roads of 18m, 24m & 30m, depending on the size of the node, activities planned along the road and the envisaged cross-section of these roads to cater to the requirements of pedestrians and NMT along with vehicular traffic. The second hierarchy of roads includes sub-arterial roads with ROW ranging between 24 to 30m. These roads primarily form loops originating from the N-S road and again culminating on the N-S road. The third-tier roads would primarily serve as collector roads for the nodes that divide the nodes into smaller zones/pockets. These are planned with a ROW ranging between 18-24m.

6.6.4 Transport Terminals

Passenger terminal and Freight Complexes have also been strategically proposed along the 55m ROW N-S road, considering the surrounding land uses, to facilitate seamless passenger movement and the transfer of goods across the nodes.

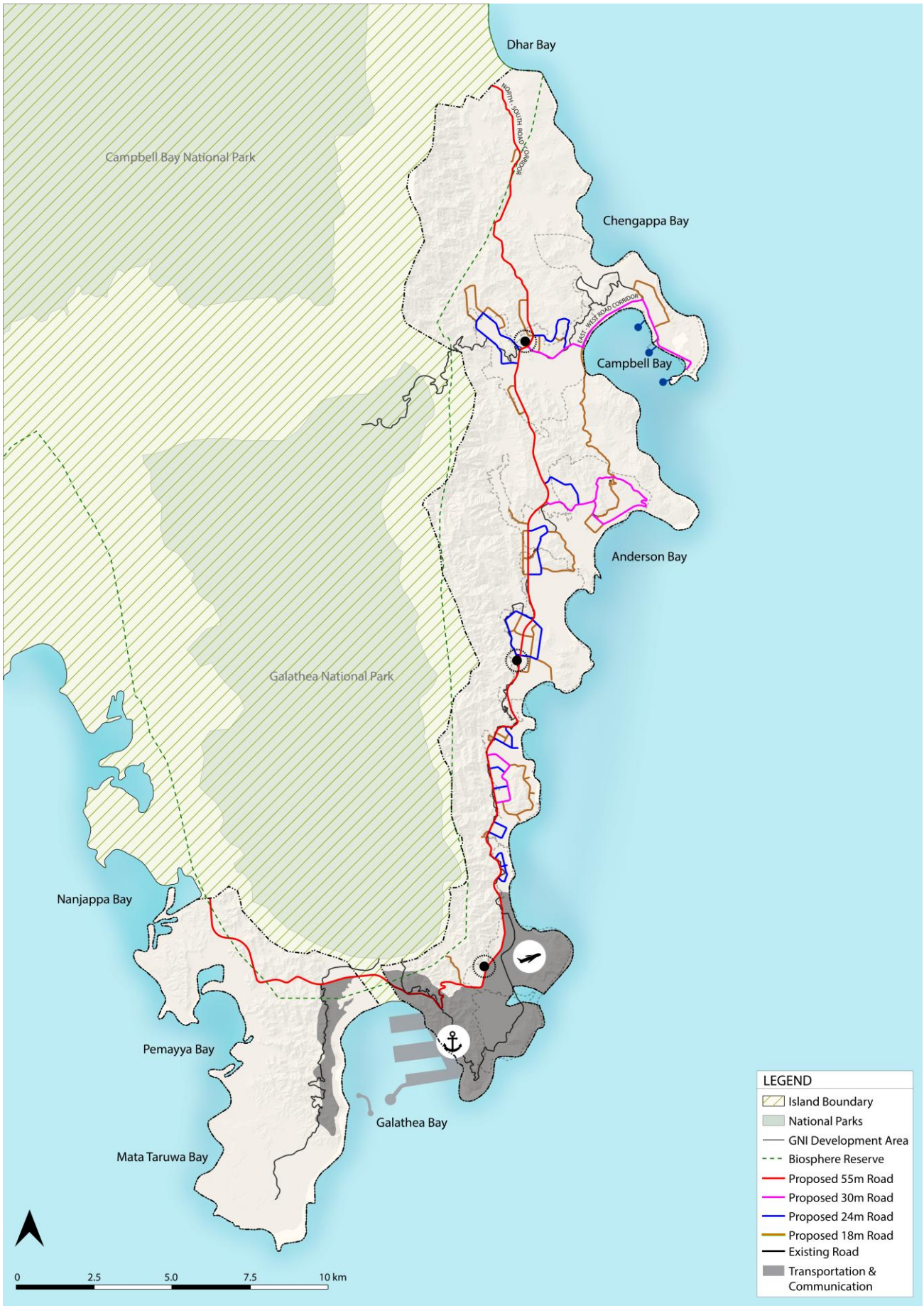
6.6.5 Public Transport

In addition, to reduce reliance on private transport and help minimize pollution, services such as Island shuttle services, hop-on hop-off bus services, and battery-operated minibuses are proposed to be introduced for internodal movement. The movement within each node is envisaged to be catered through Intermediate Public Transport (IPT) like e-rickshaws/ battery operated vehicles.

6.6.6 Public Parking

Adequate parking facilities are essential at both tourism sites and transport terminals. Parking lots should be strategically located near key tourist attractions, including boat jetties and beaches of interest, and should be integrated into the development of each tourism destination across the island.

FIGURE 6-8: PROPOSED CONNECTIVITY TO THE ISLAND & TRANSPORTATION INFRASTRUCTURE



(Source: Consultant's Analysis)

6.7 Tourism Development

The tourism development will form the backbone for the growth of GNI as this is going to be the primary economic driver for the island that will attract not only tourists but also the population to settle here. This can be achieved by development of the tourism infrastructure to international standards and promoting tourism activities retaining the ecological and biotic character. This would facilitate encouraging tourists for extended stays besides an increase in tourist arrival, thereby maximizing the economic benefits for the resident population.

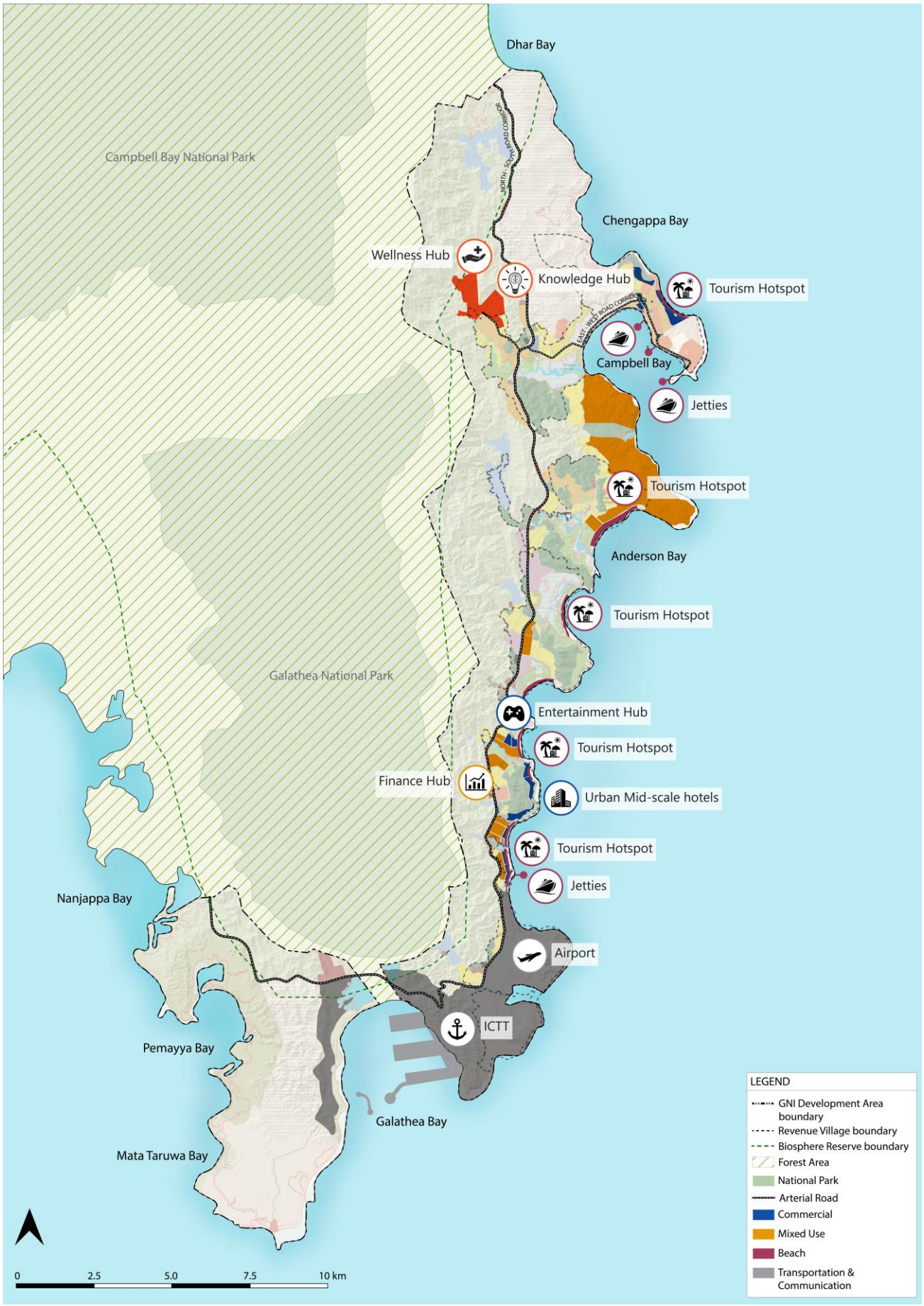
The Master Plan envisages to boost tourism influx to the island through the development of:

- ✓ **Development of Entertainment hub** which will provide a dynamic mix of recreational, cultural, and leisure activities such as performance venues, theme parks, adventure and amusement parks, shopping complexes, gaming complexes and dining areas. These hubs are designed to create a vibrant atmosphere that appeals to a broad range of tourists and locals, fostering a lively social and cultural environment while stimulating local businesses and employment opportunities.
- ✓ **Promoting Tourism through Sea** which is proposed to be enhanced by upgradation of existing jetties at the island and increasing the frequency of inter-island ship movement, as the tourist inflow increases. As a long-term vision, cruise tourism is poised to make a significant contribution to the growth of tourism at GNI, resting on the Southeast Asian cruise industry. This would require the establishment of modern cruise terminals and related infrastructure to attract major cruise lines and facilitate easier access for international travelers. The enhanced influx of international tourists through cruise tourism will put GNI on the global tourist network as the tourists will be attracted due to the island's unique natural beauty.

For achieving the intended objectives of tourism development, a full-fledged Tourism & Entertainment Cluster, comprising of 4 development nodes has been planned closer to the airport, taking into account the natural landscape and the beautiful beaches along the coastline where water-based sports activities could be housed for attracting tourists. These water sports activities, including scuba diving, snorkeling, and sea walking, will need to be carefully regulated and confined to specific areas to minimize the ecological impact while ensuring a thorough understanding of the local coral reef ecosystems.

The commercial Use has been strategically proposed along the coastline of Gandhinagar and Laxminagar and Campbell Bay, to facilitate the development of sea-facing hospitality infrastructure like beach resorts, boutique hotels, restaurants/dining options, theme parks, entertainment avenues, gaming arcades and commercial shops. In addition, a layer of Mixed Land Use has been planned beyond the commercial use to accommodate the spillover of tourism & hospitality infrastructure and 'High Streets'.

FIGURE 6-9: TOURISM ALIGNED DEVELOPMENT



(Source: Consultant's Analysis)

The other clusters like Administrative and Institutional Cluster in the Campbell Bay area are envisaged to attract medical tourism where people come for wellness & rejuvenation, lifestyle management and medical treatment. This cluster also envisages developing institutions of excellence for research and training in the fields of marine ecology, biodiversity, endemic fauna and flora and green tropical evergreen forests, Merchant Navy, hotel management & culinary sciences. Accordingly, a large tract of land has been earmarked under Public & Semi-Public Use, to promote Wellness Hub and Knowledge Hub.

The proposed ICTP will attract a lot of activities related to logistics and financial aspects, and accordingly, it is proposed to develop a Finance Hub as part of the Tourism and Entertainment Cluster. The Financial Hub will also support the tourism and entertainment industry, especially, as the international tourist inflow increases and the township around the proposed clusters start growing. The Finance hub has been strategically placed closer to the proposed ICTP and Airport.

Additionally, Parks and Open Spaces planned in the island will play a crucial role in enhancing the tourist experience. The organized parks will serve as essential intermediary spaces for tourists, offering a place to relax and engage with the local environment as they explore various tourist attractions. Further, a mix of active and passive green spaces in the island will facilitate in managing the influx and distribution of tourists through other leisure opportunities in the form of adventure & eco-tourism activities, especially for health-conscious travelers seeking relaxation and rejuvenation in natural settings.

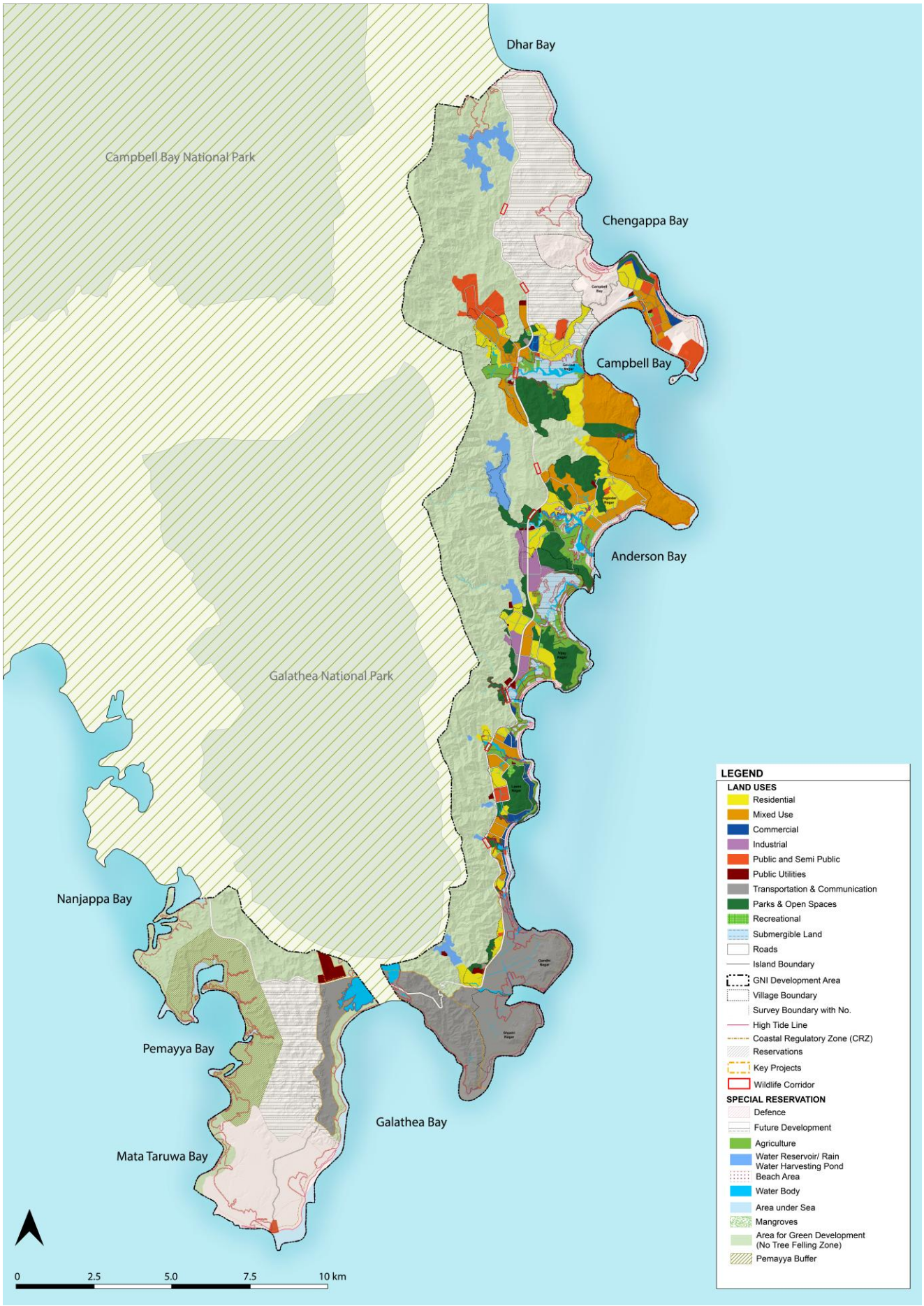
Community-based facilitation is envisaged as a preferred model for eco-tourism activities, wherein, local residents are actively engaged as naturalists, tourist guides, and homestay operators. This approach will ensure fair and equitable sharing of eco-tourism revenues, allowing the local community to benefit directly from the tourism sector while fostering a deeper connection between visitors and the island’s natural heritage.

6.8 Proposed Land-use

The development clusters translated into nodes, as iterated in Section 5.3, have evolved further to accommodate the appropriate mix of land uses, through allocation of various land uses in alignment with the primary activity envisaged for each development node.

The Master Plan for Great Nicobar Island aims to guide and regulate the island's physical development in an organized and planned way by allocating various land uses to accommodate requirements of land for different uses. The land use planning for the island has integrated the economic, social, environmental and physical aspects for the evolution of sustainable and vibrant development of GNI.

FIGURE 6-10: PROPOSED LAND USE



(Source: Consultant's Analysis)

6.8.1 Land-use Zoning

Land use zoning facilitates the distribution of activities for creation of spatially spread economic opportunities and enhanced liveability around these work centres for the resident communities. The mix of various land uses and their clustering supported with development regulations, to allow compatible activities in different land use zones, forms the basis for the planned and sustainable development of GNI Development Area.

Thus, this Master Plan has proposed the following land use zones to address the diverse demands for various activities spatially spread across the Development Area:

1. Residential (R)
2. Mixed Use (MU)
3. Commercial (C)
4. Industrial (I)
5. Public and Semi Public (PSP)
6. Public Utility (PU)
7. Transportation and Communication (TC)
8. Roads (RO)
9. Parks and Open Spaces (POS)
10. Recreational (REC)
11. Submergible Lands (SL)
12. Special Reservation (SR)

a) Defence,
b) Future development zone,
c) Agriculture,
d) Water Reservoir/Rainwater Harvesting ponds,
e) Beach,
f) Water Bodies,
g) Area under Sea,
h) Mangroves,
i) Area for Green Development (No tree felling zone),
j) Pemayya buffer

The Development Regulations in the following chapter have detailed out for each of the above landuse zones the activities that are prohibited in each of these zones considering the principles of 'everything permitted unless prohibited', except for Special Reservations where specific activities permitted are defined.

The Proposed Land Use map for GNI is depicted in Figure 6-10. The Proposed Land Use map in A0 size, with superimposed revenue survey numbers, can be referred at Annexure VI.

6.8.2 Land-Use Distribution

The land parcels in the island have been allocated specific land use zones based on their suitability & potential, to achieve the objectives of the Master Plan. The area under different land uses in the

Proposed Land Use map has been analyzed for each village and the land falling under the Diverted Forest. The village wise and the overall land allocated for different land uses at the GNI level is summarized in Table 6-2 below:

TABLE 6-2: PROPOSED LAND USE DISTRIBUTION

Proposed Land Use Categories	Campbell Bay	Govind Nagar	Joginder Nagar	Vijay Nagar	Laxmi Nagar	Gandhi Nagar	Shastri Nagar	Diverted Forest	Total Area (Ha)	Total Area (sq.km)	% of Urbanizable/ Special projects and other areas
Urbanizable Area											
Residential (R)	38.1511	115.4638	122.1791	83.5880	36.9213	41.1173		157.3233	594.7440	5.95	8.8%
Mixed-Use (MU)	69.5642	98.0665	144.9276	25.1042	63.4260	8.2153		541.6226	950.9263	9.51	14.0%
Commercial (C)	23.2120	9.6380			43.9616	5.4203		0.9845	83.2164	0.83	1.2%
Industrial (I)			5.6533	88.5152				18.0097	112.1783	1.12	1.7%
Public & Semi-Public (PSP)	96.4666	19.1894	3.2031		15.6061	3.9074		131.2175	269.5902	2.70	4.0%
Public Utilities (PU)	2.7536	1.9403	5.3392	3.4573	1.4804	5.3554		20.0292	40.3553	0.40	0.6%
Transportation & Communication (TC)	0.4589	2.5797		3.2732		1.7601		0.0793	8.1513	0.08	0.1%
Roads (RO)	27.0742	50.6817	45.3524	54.9199	35.8070	5.5478		173.2634	392.6463	3.93	5.8%
Parks & Open Spaces (POS)	22.2204	179.9497	259.6021	196.7298	99.2641	18.3997		91.7392	867.9051	8.68	12.8%
Recreational (REC)	1.7471	1.9522	3.3190	1.6621	5.1780	1.0645			14.9230	0.15	0.2%
Beach (B)	20.1826	4.5939	36.4900	25.4978	23.4201	8.0199		1.1040	119.3084	1.19	1.8%
Agriculture		77.7665	76.1093	144.6487	44.5781			2.4567	345.5593	3.46	5.1%
Submergible Land		96.5353	22.6043	130.9633	8.1630	1.1747		7.6231	267.0637	2.67	3.9%
Water Body	2.9697	41.4658	47.7628	17.4244	20.9068	6.3401		90.9402	227.8098	2.28	3.4%
Mangroves		4.0723	12.1203	1.3539				1.6393	19.1858	0.19	0.3%
Defence (in Campbell Bay)	419.9401								419.9401	4.20	6.2%
Future Development		41.0725						2013.8177	2054.8902	20.55	30.3%
Total Urbanizable Area									**6788.3933**	**67.88**	**100%**
Special Projects and Other Areas											
Airport						446.2266	308.7900	89.9834	845.0000	8.45	8.6%
ICTT Port							1.6900	690.3100	692.0000	6.92	7.0%
PU - Power Plant								39.0000	39.0000	0.39	0.4%
Defence (near Galathea Bay)								916.3035	916.3035	9.16	9.3%
Water Reservoir/ Rainwater Harvesting Pond			45.9967					224.9491	270.9458	2.71	2.8%
Area under Sea	16.1314	2.1178	8.9897	17.8229	30.5558	7.9292		321.9308	405.4777	4.05	4.1%
Area for Green Development (No Tree Felling Zone)								6653.0663	6653.0663	66.53	67.7%
Total Area for Special projects and other areas									**9821.7933**	**98.22**	**100%**
GRAND TOTAL	**740.8719**	**747.0854**	**839.6491**	**794.9607**	**429.2683**	**560.4783**	**310.4800**	**12187.39**	**16610.1867**	**166.10**	

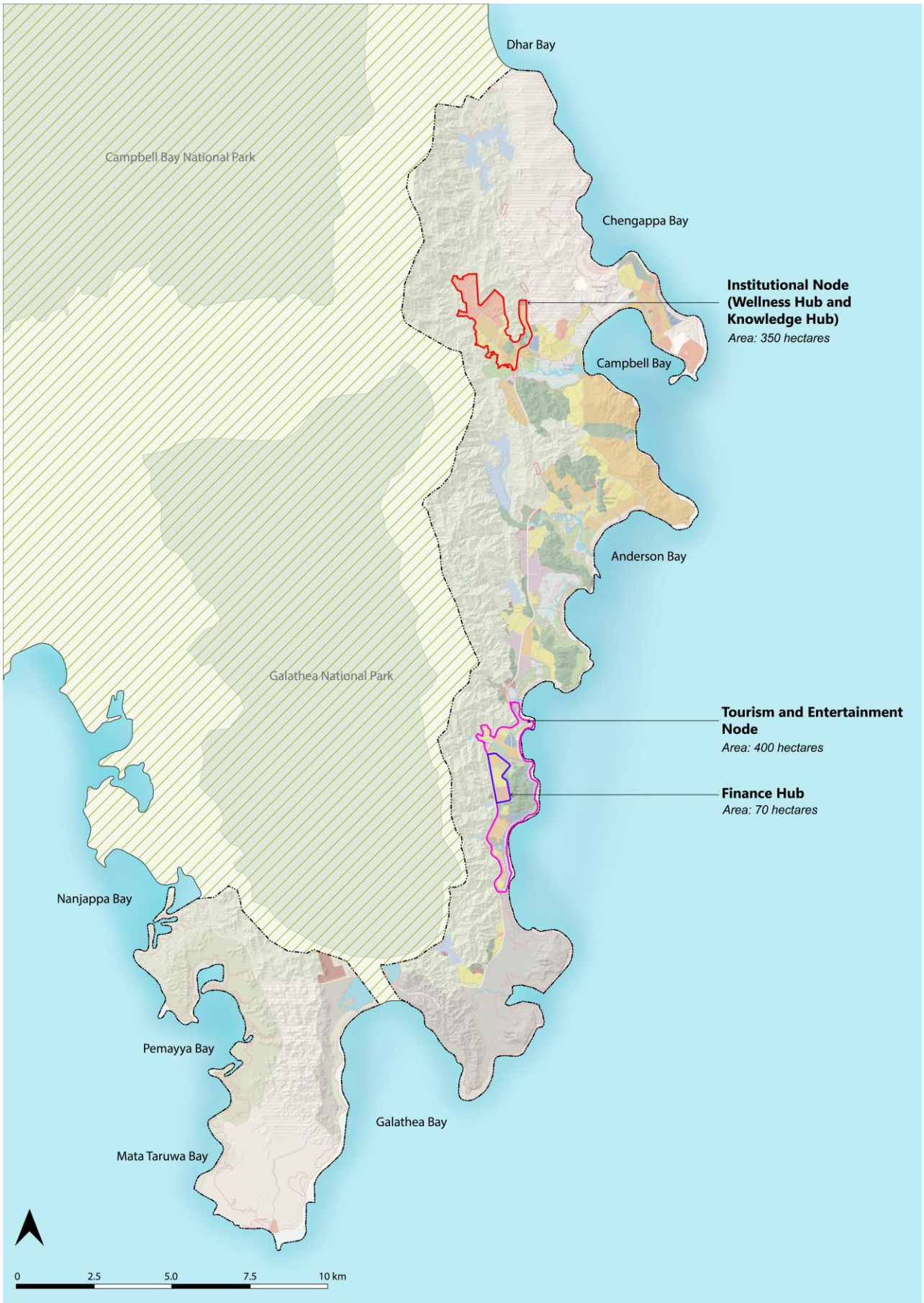
(Source: Consultant's Analysis)

Some of the salient features of the proposed land use plan are listed below:

- An area of 5.95 sq.km (including existing land under residential use) has been earmarked for accommodating the residential requirements of projected population by 2047.
- The tourism sector, being the key economic driver, would require lot of land for hospitality, and associated activities. Accordingly, 1.2% and 14% of the total urbanizable land has been reserved for commercial and mixed use respectively.
- An area of 1.12 sq.km has been earmarked under Industrial use predominantly spread across 2 development nodes under Agro and Processing Cluster.
- An area of about 2.71 sq.km has been reserved for the development of 2 reservoirs and 6 rainwater harvesting ponds as part of Water Reservoir/Rainwater Harvesting Ponds land use.
- Land parcels earmarked for physical infrastructure including Power Plant, admeasuring 0.79 sq.km have been proposed under Public Utilities.

- Land admeasuring 2.70 sq.km under PSP landuse caters to the requirements of social infrastructure, administrative & institutional (including safety services) and socio-cultural & community facilities for the resident population.
- Transport & Communication Land Use area comprises of land under ICTP (6.92 sq.km), Airport (8.45 sq.km) and other transport terminal facilities earmarked in the Master Plan including freight and passenger terminals (0.08 sq.km).
- The Land use plan has earmarked a total area of 10.02 sq.km under Recreational Use (0.15 sq.km), Parks & Open Spaces (8.68 sq.km) and Beach (1.19 sq.km) to cater to the requirements of active and passive open spaces, sports and beachfront activities.
- An area of 2.67 sq.km falls under the category of Submergible Land (Land surrendered by private owners to the revenue department due to submergence, or the government lands submerged as a result of tsunami), which could be allowed for certain limited activities by the sanction of the Authority, based on the assessment of vulnerability of such lands.
- An area of 13.36 sq.km is reserved and falls under Defence Land Use.
- The agricultural land has been conserved where, in addition to local agro-production, other activities like eco-resorts, farm stays and poultry farms can be developed. An area of 3.46 sq.km reserved under this land use zone. Efforts have been made to earmark this landuse zone aligned with the ICRZ boundaries, the wildlife corridors and streams/waterbodies.
- The ICRZ boundary has been included as part of the Master Plan and the land under this boundary has been predominantly provided with landuses where, except for the development incidental to the use, no development is allowed. The development in land use zones (permitted with developmental activities) falling within the boundary of ICRZ, shall be governed as per the uses and the extent permitted in the ICRZ regulations.
- An area of about 20.55 sq. km has been reserved for future development.
- The Special Reservation Land Use includes land under Water Reservoir/ Rainwater Harvesting Ponds (2.71 sq.km), Mangroves (0.19 sq.km), Area for Green Development (No tree felling zone) (66.53 sq.km) as per the requirements of EC, and Water Bodies (2.28 sq.km)
- The land earmarked for the anchor projects of Wellness Hub, Knowledge Hub, Finance Hub and Tourism & Entertainment Hub is shown in FIGURE 6-11.

FIGURE 6-11 : LAND EARMARKED FOR ANCHOR PROJECTS



(Source: Consultant's Analysis)

6.9 Projects and Phasing

The proposals in the Master Plan have been developed with consideration for both the aspirations of the local community and the projected population of 2.5 lakh by 2047. These proposals are translated into spatial terms through the proposed land use plan and development regulations. The programs and projects outlined in the plan will be implemented over time, based on the evolving needs, as well as technical and financial feasibility.

It is important to note that the Master Plan aims at progressively transforming the Development Area into a self-sustaining community, fostering socio-economic development and improving the quality of life. Achieving these goals will require prioritizing initiatives that strengthen infrastructure and enhance service quality, which will play a crucial role in realizing the Master Plan's objectives. The timeline for implementing urban infrastructure projects will depend on their scale, with major projects taking longer to complete. However, projects that support job creation and improve access to public amenities should be prioritized, as these will bring immediate and tangible improvements to the living conditions of residents.

The other Master Plans in the Andaman & Nicobar Islands have been notified for a horizon period of 20 years. The Master Plan for GNI is proposed for the horizon period of 22 years i.e., upto 2047 considering the Amritkal period declared by Government of India and completion of 100 years of Independent India.

Accordingly, the implementation of the Master Plan has been divided into 2 phases (Phase 1, Phase 2 & Phase 3) of 10, 6, and 6-year period respectively. Phase 1 has been further sub-divided into 2 sub-phases, i.e., Phase 1A (2025-2029) targeted towards implementation of anchor & trunk infrastructure projects, to lay a foundation for providing impetus to tourism development. Along with this, the preparatory works for subsequent phases through strengthening of existing infrastructure facilities as well as planning for new infrastructure facilities shall also be undertaken. The 2nd Sub-phase, i.e., Phase 1B (2030-2035) is expected to observe growth in tourism activities along with the upgradation and strengthening of infrastructure as well as opening of new areas for development. Phase 2 (2036-2041) is envisaged as a phase of consolidation and enhanced growth of tourist traffic as well as opening opportunities for other potential economic drivers. Phase 3 (2042-2047) is reserved for future development.

The following section has identified the projects to be undertaken in different phases to translate the vision of the Master Plan into reality. The projects have been further classified into 5 categories namely: (A) Anchor Projects, (B) Development Area Level: Physical Infrastructure Projects, (C) Development Area Level: Social Infrastructure Projects, (D) Tourism Infrastructure Projects, and (E) Projects related to Economic Drivers.

6.9.1 Projects in Phase 1 (2025-2035)

6.9.1.1 Phase 1A (2025-2029)

A. Anchor Projects

1. Development of International Container Transshipment Port (ICTP) as an international transshipment terminal in the region.
2. Development of The Great Nicobar Island International Airport (GNIIA).
3. Development of Great Nicobar Gas and Solar Power Plants (Great Nicobar GSPP).

B. Development Area Level: Physical Infrastructure Projects

4. Design and development of N-S Road to a 4-lane configuration starting from the junction of proposed N-S Road and E-W Road at Govind Nagar to Galathea Bay upto proposed site for Defence establishments including design and development of bus bays with drop-off and pick-up points at every node along N-S Road.
5. Road widening and strengthening of E-W Road connecting Campbell Bay Breakwater Jetty to proposed N-S Road to a 4-lane configuration.
6. Road widening and upgradation of all existing roads, for two-way movement of traffic with footpath.
7. Establishment of Main Receiving Substations and power transmission grid from proposed powerplant to Campbell Bay.
8. Design and development of 2 Water Reservoirs at Joginder Nagar and north of Campbell Bay
9. Establishment of 2 water treatment plants at Swaroop nala and Joginder Nagar respectively.
10. Upgradation and strengthening of existing water treatment plants at Campbell Bay.
11. Establishment of two wastewater treatment plants with an initial capacity of 1 MLD each, following a modular approach: 1 at Laxminagar and 1 at Gandhinagar, with potential for capacity expansion.
12. Establishment of Freight Complex at Campbell Bay and Gandhinagar, as identified in the Master Plan.
13. Establishment of bus terminals with basic facilities near the Airport at Gandhinagar.
14. Upgradation and strengthening of the existing bus stand at Campbell Bay with modern facilities for smooth passenger traffic.
15. Improvements and expansion of all existing jetties and enhancement of passenger terminal facilities at Campbell Bay.

C. Development Area Level: Social Infrastructure Projects

16. Identification and development of government land parcels for resettlement of households displaced on account of land acquisition for development projects (Stage 1).
17. Identification of government land parcels for development of affordable housing.
18. Establishment of 1 general hospital at Laxmi Nagar.
19. Upgradation and strengthening of existing health care centres.
20. Establishment of 1 integrated school at Laxmi Nagar.
21. Upgradation and strengthening of existing schools.

D. Tourism Infrastructure Projects

22. Addition of tourism facilities at existing jetty at Campbell Bay, including a tourism information center, parking facilities and other amenities to enhance visitor experience.
23. Establishment of government-supported tourist accommodation facilities at key tourism nodes, Laxminagar, including hotels, cottages, resorts, service apartments and camping sites, aimed at providing a range of lodging options to cater to diverse traveller preferences (Stage I).

E. Economic Drivers

1. Firming up the administrative structures and regulations for assembling the land through land acquisition/ land pooling/ TP scheme/ Joint development models.
2. Identification of potential investors and marketing for anchor projects like wellness centres, research centres, office complexes in finance hub.
3. Identification of government lands in residential land use zone for resettlement of project affected people and development of affordable housing.

6.9.1.2 Phase 1B (2030-2035)

A. Development Area Level: Physical Infrastructure Projects

4. Development of power distribution system including electric substations and power distribution network at proposed nodes, at Laxmi Nagar and Gandhinagar.
5. Capacity enhancement of water treatment plant at Laxmi Nagar.
6. Establishment of a solid waste management system incorporating local-level composting units and waste segregation facility at the community level.

B. Development Area Level: Social Infrastructure Projects

7. Establishment of 1 college at Laxmi Nagar.
8. Upgradation and strengthening of existing socio-cultural centres.
9. Establishment of additional schools at each development node (Stage I).
10. Establishment of additional healthcare centres (Stage I).
11. Establishment of additional multipurpose grounds (Stage I).
12. Establishment of additional socio-cultural centres (Stage I).

C. Tourism Infrastructure Projects

13. Establishment of Beach/Sea Front developments at key tourism nodes, at Laxmi Nagar, equipped with modern facilities including tourism pavilions, toilets, changing rooms, seating areas, landscaped promenades, and recreational zones, aimed at enhancing the visitor experience (Stage I).
14. Facilitation of the private sector for the creation of tourist facilities like star hotels, cottages, luxury resorts, camping sites at various tourist nodes (Stage II).
15. Construction of houses for EWS households and for those displaced in view of implementation of development projects (Stage II).

D. Economic Drivers

16. Establishing connectivity and development of infrastructure for Wellness Hub.
17. Establishing connectivity and development of infrastructure for Knowledge Hub zones.
18. Establishing connectivity and development of infrastructure for Tourism & Entertainment Cluster.

6.9.2 Phase 2 (2036-2041)

A. Development Area Level: Physical Infrastructure Projects

1. Strengthening and upgradation of new freight complexes and passenger terminals (Stage II).

B. Development Area Level: Social Infrastructure Projects

2. Establishment of additional schools (Stage II).
3. Establishment of additional healthcare centres (Stage II).
4. Establishment of additional multipurpose grounds (Stage II).
5. Establishment of additional socio-cultural centres (Stage II).
6. Identification and development of government land parcels for resettlement of households displaced on account of land acquisition for development projects (Stage II).

C. Tourism Infrastructure Projects

7. Establishment of Beach/Sea Front developments at key tourism nodes, at Laxmi Nagar, equipped with modern facilities including tourism pavilions, toilets, changing rooms, seating areas, landscaped promenades, and recreational zones, aimed at enhancing the visitor experience (Stage II).
8. Facilitating the private sector for the creation of tourist facilities like star hotels, cottages, luxury resorts and camping sites at various tourist nodes (Stage III).

6.10 Project Land Requirements

The successful execution of the Master Plan project proposals is largely contingent upon the availability of land and the necessary funding for development. These proposals span multiple sectors, and it will be the responsibility of the relevant agency or department to take appropriate actions for their implementation.

Many of the development projects outlined in the Master Plan may require further elaboration through detailed studies and investigations. Key factors such as the extent of land to be acquired, potential displacement of residents, community benefits, and the negative impacts on affected individuals must be assessed to integrate suitable mitigation strategies into the project proposals.

An overview of the land for the major project proposals is presented in the table below:

TABLE 6-3: PROJECT LAND REQUIREMENT

Projects	Unit	Quantity	Land requirement (in Ha)
A. Anchor Projects (from DPR)			
1. Airport	No.	1	845.00
2. ICTP		1	692.00
3. Powerplant		1	39.00
4. Defence		1	1283.00
SUBTOTAL			**2859.00**
B. Physical Infrastructure			
1. Road			
a) New roads			
• Trunk road and Road connecting Trunk Road to Jetty at Campbell Bay (4-lane divided carriageway)	km	37	111.00
• Other roads, including stormwater drains (Phase 1A) • 18m ROW – (2-lane carriageway with footpaths & cycle track) • 24m ROW – (3-lane carriageway with footpaths & cycle track) • 30m ROW – (4-lane undivided carriageway with parking lane, footpath & cycle track)	km	9.1	21.48
b) Upgradation and strengthening of existing roads (existing roads that are in PLU, going to the beach) (2lane carriageway)	km	10	-
SUBTOTAL			**132.48**
2. Power			
a) MRSS (132 KV upgradable to 220 KV)	No.	2	5.00
b) Zonal substation (33/11 KV upgradable to 110 KV)	No.	2	0.50
c) 110 KV Underground Power Cable Network from Generating Station to MRSS	Km.	45	-

Projects	Unit	Quantity	Land requirement (in Ha)
d) Underground Power Distribution Network (33kV, 11kV & LT)	Km.	48.2	-
e) RCC Cable Trench/duct	Km.	25.50	-
f) Smart Street & Area Lighting	Km.	56.1	-
SUBTOTAL			**5.50**
3. Water			
a) Water Source/ Reservoir development	No.	2	212.00
b) Water Treatment Plant	No.	2	3.00
c) Water distribution network	Km.	18.2	-
d) Water Transmission	Km.	7	-
e) Recycled Water Supply	Km.	18.2	-
SUBTOTAL			**215.00**
4. Sewerage system			
a) Sewage Distribution network including STP - 9MLD, IPS - 03Nos. & Raising Main - 7 Km	No.	18.2	-
5. Development of Transport Terminals	No.	5	8.60
6. Upgradation and strengthening of jetties and associated facilities like passenger terminals, tourist information center.	No.	1	-
7. Compost Yards at all revenue villages	TPD	100	-
SUBTOTAL			**8.60**
C. Social Infrastructure			
1. Integrated school	No.	1	3.50
2. Upgradation and strengthening of existing schools	No.	7	-
3. General hospital	No.	1	6.00
4. Establishment of hotels & Service apartments	No.	200	1.50
Sub Total - Social Infrastructure (C)			**11.00**

(Source: Consultant's Analysis)

7 DEVELOPMENT REGULATIONS

7.1 Short Title, Extent & Commencement

i) **Title:** These regulations shall be called Development Regulations for Great Nicobar Island Development Area.

ii) **Spatial Extent:** These regulations shall apply to the development area notified under Sub-section (1) of Section 11 of Andaman and Nicobar Islands Town and Country Planning Regulation, 1994.

iii) All development work shall conform to the respective provisions made under these regulations. If there is any conflict between the requirements of these regulations and those of any other rules or bye-laws, these regulations shall prevail.

iv) **Savings:** Notwithstanding anything contained herein, any permission granted, or any action taken under the regulations in force prior to these regulations shall be valid and continue to be so valid, unless otherwise specified in these regulations. Provided that, permissions granted earlier shall be eligible for renewal as per the provisions of the Andaman and Nicobar Islands Town and Country Planning Regulations, 1994.

7.2 Technical Terms and Definitions

In this Regulation unless the context otherwise requires, the following terminologies are adopted together with the meaning:

1. **Access:** Way to a plot or a building other than a street or road.

2. **Access Road:** Means an existing public street or road, which the public have a right of way (RoW), that provides access to a building or plot.

3. **Administration:** Administration means "Andaman & Nicobar Administration".

4. **Administrator:** Administrator means (Lt. Governor of A & N Islands) appointed by the President of India under Article 239 of Constitution of India.

5. **Amalgamation:** Combining two or more plots as a single plot.

6. **Amenity:** Includes road, water supply, street lighting, drainage, sewerage, public works and such other convenience as the Administrator may, by notification in the Official Gazette, specify to be an amenity for the purpose of this Regulation.

7. **Apartment:** Set of rooms forming an Individual home within a building block comprising more than three dwelling units.

8. **Assembly building:** means a building or part of a building where group of people not less than 50 congregate or gather for amusement, recreation, social, religious, patriotic, civil, travel and similar purposes such as, theaters, motion picture houses, assembly halls, auditoria, exhibition halls, museum, skating rinks, gymnasium, restaurants, places of worship, dance halls, club rooms,

passenger stations and terminals of air, surface and marine public transportation services, recreation buildings and stadia, Kalyan Mandap etc.

9. **Assembly Hall:** A hall for the purpose of community gathering and conducting social events.

10. **Authority having Jurisdiction:** The Authority constituted under the provisions of Andaman & Nicobar Islands Town and Country planning Regulations 1994.

11. **Balcony:** A horizontal projection, with a handrail or balustrade or a parapet, to serve as sitting out place not exceeding 1.5m in depth (except for highrise buildings where in the depth of balcony can be increased to 2m on second and above floors) and not continuous throughout the length or width of the building.

12. **Bifurcation:** Means bifurcation of a single plot into two.

13. **Building:** A house, hut, shed or other roofed structure, whatsoever purpose, and of whatsoever material constructed and every part thereof, and includes a wall and a well, but does not include a tent or other such portable and merely temporary shelter; and "part of building" includes any wall underground room or passage, verandas, fixed platform, plinth, staircase, or door steps attached to or within the compound of an existing building or a proposed building.

14. **Building Line:** The line up to which the plinth of a building adjoining a street or an extension of a street or on a future street may lawfully extend. It includes the lines prescribed, if any, in any scheme. The building line may change from time to time as decided by the Authority.

15. **Category of Industries:** The category of industries shall be guided as per the guidelines issued by CPCB which categorizes the sector based on the following ranges of Pollution Index:
    i. Red: PI≥ 80,
    ii. Orange: 55 ≤PI < 80,
    iii. Green: 25 ≤ PI < 55,
    iv. White: PI < 25

16. **Cluster Housing:** Cluster housing is a housing typology wherein group of dwellings are constructed around a shared open space.

17. **Community Hall:** A hall for the purpose of community gathering and conducting social events.

18. **Competent Authority:** Any Officer/Committee of Officers appointed by the Administrator (till the Constitution of Development Authority or in case of dissolution of the Development Authority) shall be the Competent Authority.

19. **Corridor:** A common passage or circulation space within a building.

20. **Covered Area:** Ground area covered by the building above the plinth level and includes parts of the building projecting out in the other stories.

21. **Development:** Means the carrying out of building, engineering, mining or other operations in, on, over or under land or the making of any material change in building or land and includes re-development.

22. **Development Area:** The Area notified under Sub-section (1) of Section 11 of Andaman and Nicobar Islands Town and Country Planning Regulation, 1994.

23. **Dormitory:** A residence hall consisting of sleeping quarters or buildings primarily providing sleeping and residential quarters for large numbers of people, often associated with a boarding school, college or university.

24. **Dwelling Unit:** An independent housing unit with separates facilities for living, cooking and sanitary requirements, and maybe a part of a building.

25. **Eco-friendly material:** Building materials which leave minimal carbon footprint, less energy consumptive, recyclable and reusable, not include materials such as cement concrete, solid/hollow brick etc.

26. **Eco Resort:** Resort, which is intended to be constructed with environment friendly material and cause minimal impact over the Ecology in design, construction, operation and maintenance.

27. **Floor Area:** The built-up area with a roof above all floors including the ground floor. It is measured at the floor level of the respective floors. Floor Area includes the area of the swimming pools having roof above.

28. **Floor Area Ratio (FAR):** The quotient obtained by dividing the total covered plinth area on all floors by the area of the plot.

$$FAR = \frac{\text{Total covered area on all floors}}{\text{Plot area}}$$

29. **Group Development:** Means accommodation of residential or commercial as combination of such activities housed in two or more blocks of buildings in a particular site irrespective of whether these structures are inter-connected or not.

30. **Guest House:** Includes a building or a collection of buildings or part of a building used for the accommodation of guests of an institution.

31. **Hazardous:** Any activity/storage, which has Physical (such as flammability, explosiveness, or corrosiveness), Chemical (such as toxicity or reactivity) or Biological properties, that can harm the environment or human health.

32. **Height of Building:** The vertical distance measured, in the case of flat roofs from the average level of the ground around and contiguous to the building or as decided by the Authority to the top of the terrace of last livable floor of the building adjacent to the external walls; and in the

case of pitched roofs, up to the point where the external surface of the outer wall intersects the finished surface of the sloping roof, and in the case of gables facing the road, in the midpoint between the eaves level and the ridge.

33. **Hotel:** Includes a building or a collection of buildings having provisions for accommodation and boarding of travelers or tourists.

34. **Household Industry:** Household Industry is defined as an industry using a maximum of 1 HP and operated from within the precincts of the house by the household.

35. **Land:** Includes land which is being built upon or is built upon or covered with water benefits to arrive out of land, things attached to the earth or permanently fastened to anything attached to the earth and drives created by law or any street.

36. **Layout:** Division of land into plots exceeding eight in number formed by an individual or body or persons, whether incorporated or not.

37. **Marriage Hall:** A function hall for the purpose of conducting social events like marriage / reception etc.

38. **Nuisance:** Nuisance is generally defined as an act or condition that causes inconvenience or harm to an individual or the public. It can arise from various sources, including noise, odors, pollution, and other disturbances that affect the use and enjoyment of property.

39. **Ownership:** All land in the Union territory of the Andaman and Nicobar Islands is vested absolutely in the Government, and, save as provided by or under this Regulation, no person shall be deemed to have acquired any property therein or any right to or over the same by occupation, prescription or conveyance or in any other manner what so ever except by a conveyance executed by, or under the authority of, the Government

40. **Parking Space:** An area covered or open, sufficient in size to park vehicles together with a driveway connecting the parking lot with road or street and permitting ingress or egress of the vehicles.

41. **Plinth Area:** The built-up cover area measured at the ground/stilt floor level of the building.

42. **Plot Extent:** Area of contiguous parcel of land enclosed by definite boundaries. Note: If the extent of plot differs as per site conditions form PLR extract /Patta and registered ownership document, then for application of FAR and plot coverage regulations, lowest of the same [excluding any encroachment] will be counted. For application of setback regulation, the inner boundary arrived excluding any encroachment or the part of the land for which the applicant/developer does not have the right over it will be the basis.

43. **Plot Coverage:** The extent to which the plot is covered with a building or structure, and this is expressed as percentage of the ratio of the built-up area at ground level to the plot extent [including part of the site used as exclusive passage].

44. **Plot Frontage:** The width of the plot on the side of the site or plot abutting the access road.

45. **Private Street:** Any street, road square court alley, passage or riding path, which is not a public street but does not include a pathway made by the owner of the premises on his own land to secure access to or the convenient use of such premises.

46. **Public Space:** A place in a Development Area not being private property, which is open to the use or enjoyment of the public.

47. **Registered Architect, Engineer, Town Planner:** A qualified Architect, Engineer, Town Planner who has been registered by Authority constituted under statute, as may be applicable.

48. **Road/Street:** Any street, road, bridge, foot-way, lane, square alley or passage in the Development Area along which the public or any portion of the public has a right to pass and includes the drains or gutters on either side, and the land up to the defined boundary of any abutting property notwithstanding the projection over such land of any veranda or other superstructure.

49. **Road/Street Width:** Means whole extent of space within the boundaries of the road/street measured at right angles to the course of direction of such road / street.

50. **Row Housing / Row type Building:** A row of houses / buildings with only front, rear and interior open spaces where applicable.

51. **Sanctioned Plan:** The set of plans and specifications submitted in connection with a building or development and duly approved with the seal and sanctioned by the Authority.

52. **Service Road:** A road /lane provided on any side of a plot for service purposes.

53. **Set Back Line:** A line usually parallel to the plot boundaries and laid down in each case by the Authority, beyond which no building can be constructed towards the site boundaries.

54. **Site:** A contiguous parcel/piece of land including a plot enclosed by definite boundaries.

55. **Stilt:** Building raised above ground level with stilt area of clear height of minimum 2.4m which is kept open on atleast two sides with adequate structural elements and used for vehicles parking or services or habitable space provided that the balance stilt area is able to meet the requirement of parking norms and the height requirements for habitable space. The height of stilt shall not exceed 3.2m, however, higher clear height of stilt is allowed in case of hospitals, shopping mall, hotel etc, as per requirements.

56. **Sub-division:** Means division of land into plots not exceeding eight in number.

57. **Total Floor Area:** The sum of the floor area of all floors including the ground floor but excluding areas of covered parking and parking in the stilt floor, staircase headroom, lift machine room, & architectural features.

58. **Villa:** Any large Rural/Suburban/Urban house that is free-standing in a landscaped plot of ground.

59. **Warehouse and Godown:** A commercial building for storage of goods. Warehouses are used by manufacturers, importers, exporters, wholesalers, transport businesses, customs, etc.

7.3 Land-use Zoning Regulations

7.3.1 Land use classifications

The delineation of various Land use zones and the permissible developmental activities in them are intended to achieve orderly growth as per the Land use strategies enunciated in the development proposals. The Master Plan for Great Nicobar Island Development Area has adopted the following main Land Use Zones:

1. Residential (R)
2. Mixed Use (MU)
3. Commercial (C)
4. Industrial (I)
5. Public & Semi Public (PSP)
6. Public Utility (PU)
7. Transportation & Communication (TC)
8. Parks & Open Spaces (POS)
9. Recreational (REC)
10. Submergible Lands (SL)
11. Special Reservation (SR) –
    i) Defence
    ii) Future Development zone
    iii) Agriculture
    iv) Water Reservoir/Rainwater Harvesting ponds
    v) Beach
    vi) Water Bodies
    vii) Area under Sea
    viii) Mangroves
    ix) Area for Green Development (No tree felling zone)
    x) Pemayya buffer

7.3.2 Prohibited activities in Various Land use zones

The Development Regulations have detailed out the activities for each of the landuse zones that are prohibited in each of these zones considering the principles of 'everything permitted unless prohibited' except for Special Reservations where specific activities permitted are defined.

7.3.2.1 Residential (R)

TABLE 7-1: ACTIVITIES PROHIBITED IN RESIDENTIAL LAND USE ZONE

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
	Prohibited Uses/Activities		
1.	1) Any activity that causes nuisance or is hazardous in nature. 2) Poultry farm, Agro farm, Acqua culture farm, Cattle sheds and Dairying activities 3) Engineering/ Medical/ Polytechnic/ Trade school/ Other higher order institutions 4) All category of industries excluding White Industries 5) Slaughter-houses 6) Solid waste dumping yards 7) Junkyard 8) Warehousing & godowns/ Building materials storage / Container Depot 9) Cold storage 10) Wholesale markets & Weekly markets 11) Bus terminals/transport depot/ Truck parking/ Workshops for buses, trucks etc. 12) Common Effluent/ Integrated Solid waste Treatment Plant		
	Prohibited Residential Uses/Activities		
2.	1) Plotted developments 2) Villas and Detached houses 3) Semi-detached Houses 4) Row Houses 5) Old age homes/Orphanages 6) Guest houses (set up by any kind of agencies for its employees/associates and not for any form of commercial use)	<9m (7m for EWS)*	
	7) Apartments/Serviced apartments/Group Housing	<12m	
	Uses/Activities prohibited as a part of Dwelling unit		
3.	1) Household industries falling under White category of industries		

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
	2) Offices of Professionals like doctors, lawyers, chartered accountants, travel agent, architects, engineers, real estate agent etc.	<9m (7m for EWS)*	>25% of the dwelling unit area
Prohibited Non-Residential Uses/Activities			
4.	**Category A** 1) Petty retail shops dealing with daily essentials like groceries, confectionary, cosmetics, clothes, shoes newspaper stalls, stationery, and other general shops. 2) Bakery/Sweet shop/Tea stalls/ Small eateries/Paan shops 3) Hair dressing, Beauty parlours 4) Laundry & Dry cleaners/Tailoring units 5) Creches/Tutorial coaching centers/Computer Training institutes/cybercafé/ ATM /Photo studios	<9m (7m for EWS)*	>25% of the total built-up area
5.	**Category B** 1) Hostels/Dormitories/ Dharamshalas 2) Offices of Local body/Government/Semi-government/Private including Banks/Insurance/Interpretation Centre/Research Centre 3) Retail shops/departmental stores/shopping complex/showroom 4) White category of industries 5) Any kind of repair centres /service station 6) Retail outlets of Domestic gas cylinders without storage godown. 7) Fuel filling stations 8) Battery Recharge Stations 9) Electronic printing press, Computer software units	<12m	>25% of the total built-up area
	10) Restaurants 11) Gymnasium, spas 12) Private nursing homes/maternity homes/Clinic 13) Pathology Laboratories/Diagnostic clinics/Polyclinics/Physiotherapy centres 14) Social/Religious/ Recreational/Cultural/Community/ Assembly buildings 15) Sports centres /Swimming pool 16) Police station/Fire station (with essential residential accommodation) 17) Grain/Fruit/Vegetable mandis/Meat/Fish market 18) Parking lots/Multi-level parking	<18m	
6.	**Category C** 1) Hospitals 2) Museums, Art Galleries & Archives	<24m	

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
	3) Shopping malls, Cinemas theatres, Auditoriums, Convention Centres, Preview theatres, Dubbing theatres, Recording studios, Multiplexes, Concert Halls. 4) Hotels/Resorts 5) Gaming Arcade, Resto-bars, pubs 6) Sewage/Water Treatment Plants		
Prohibited Public/Semi-public uses/activities – Educational Institutions			
7.	1) Nursery school 2) Primary School 3) Public library	<12m	
8.	1) Middle/High/Higher Secondary school 2) Integrated school with hostel facilities	<18m	

Note:

1) ** - All the new developments will be required to provide a minimum road width of 9m (7m for EWS). However, in case of existing developments on roads less than 9m, the planning permission in case of redevelopment/ reconstruction shall be provided as per the existing use of the building subject to the planning norms applicable in Section 7.4.*
2) *All activities are allowed across the landuse by default unless explicitly stated as prohibited in the above list with considerations for the road widths and the built-up area.*
3) *The above list of prohibited activities is without restriction of Floor area unless and otherwise mentioned, and further subject to Planning norms in Section 7.4.*

7.3.2.2 Mixed Use (MU)

TABLE 7-2: ACTIVITIES PROHIBITED IN MIXED USE LAND USE ZONE

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
Prohibited Uses/Activities			
1.	1) Any activity that causes nuisance or is hazardous in nature. 2) Poultry farm, Agro farm, Aqua culture farm, Cattle sheds and Dairying activities 3) Engineering/ Medical/ Polytechnic/ Trade school/ Other higher order institutions 4) All category of industries excluding White Industries 5) Slaughter-houses, 6) Solid waste dumping yards 7) Workshops for buses, trucks etc.		

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
2.	1) 'Prohibited Residential activities' as defined in Residential Use zone	<9m (7m for EWS)* & <12m for Apartments/Group housing	
3.	1) 'Activities prohibited as a part of Dwelling unit' as defined in Residential Use zone	<9m (7m for EWS)*	>25% of the dwelling unit area
	2) Weekly markets		
4.	1) 'Prohibited Non-Residential Activities – Category A' as defined in Residential Use zone	<9m (7m for EWS)*	
		<12m	>25% of the total built-up area
5.	1) 'Prohibited Non-Residential Activities – Category B' as defined in Residential Use zone	<12m	>50% of the total built-up area
		<18m	
	2) Hotels (up to 20 rooms) 3) Nursery/Primary school 4) Public library	<12m	
6.	1) 'Prohibited Non-Residential Activities – Category C' as defined in Residential Use zone 2) Middle/High/Higher Secondary school 3) Integrated school with hostel facilities	<18m	
7.	1) Building materials storage 2) Container depot, Ware housing and Godowns 3) Wholesale market 4) Warehousing & godowns/ Building materials storage 5) Cold storage 6) Bus terminals/transport depot/ Truck parking	<24m	

Note:

1) ** - All the new developments will be required to provide a minimum road width of 9m (7m for EWS). However, in case of existing developments on roads less than 9m, the planning permission in case of redevelopment/ reconstruction shall be provided as per the existing use of the building subject to the planning norms applicable in Section 7.4.*
2) *All activities are allowed across the landuse by default unless explicitly stated as prohibited in the above list with considerations for the road widths and the built-up area.*
3) *The above list of prohibited activities is without restriction of Floor area unless and otherwise mentioned, and further subject to Planning norms in Section 7.4.*

7.3.2.3 Commercial (C)

TABLE 7-3: ACTIVITIES PROHIBITED IN COMMERCIAL LAND USE ZONE

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
	Prohibited Uses/Activities		
1.	1) Any activity that causes nuisance or is hazardous in nature. 2) Poultry farm, Agro farm, Aqua culture farm, Cattle sheds and Dairying activities 3) Engineering/ Medical/ Polytechnic/ Trade school/ Other higher order institutions 4) All category of industries excluding White Industries 5) Slaughter-houses, 6) Solid waste dumping yards 7) Workshops for buses, trucks etc.		
	8) Residential developments*		>20% of the total built-up area
2.	1) 'Prohibited Non-Residential Activities – Category A' as defined in Residential Use zone 2) Nursery/ Primary School 3) Hotels/Resorts 4) Hostels/Dormitories/ Dharamshalas 5) Public library 6) Restaurants 7) Gymnasium, spas 8) White category of Industries 9) Any kind of repair centres /service station 10) Private nursing homes/maternity homes/ Clinic Pathology Laboratories/ Diagnostic clinics/ Polyclinics/ Physiotherapy centres 11) Offices of Local body/Government/Semi-government/Private including Banks/Insurance	<12m	
3.	1) Middle/High/Higher Secondary school 2) Integrated school with hostel facilities 3) Police station/Fire station (with essential residential accommodation) 4) Fuel filling stations 5) Departmental stores/shopping complex/showroom 6) Social/Religious/ Recreational/ Cultural/ Community/ Assembly buildings 7) Sports centres /Swimming pool 8) Hospitals 9) Museums, Art Galleries & Archives	<18m	

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
	10) Shopping malls, Cinemas theatres, Auditoriums, Preview theatres, Dubbing theatres, Recording studios, Multiplexes, Concert Halls. 11) Gaming Arcade, Resto-bars, pubs 12) Parking lots/Multi-level parking 13) Grain/Fruit/Vegetable mandis/ Meat/Fish market		
4.	1) Wholesale market 2) Building materials shop/complex	<24m	

Note:

1) *All activities are allowed across the landuse by default unless explicitly stated as prohibited in the above list with considerations for the road widths and the built-up area.*
2) *The above list of prohibited activities is without restriction of Floor area unless and otherwise mentioned, and further subject to Planning norms in Section 7.4.*
3) ** - Activities that are incidental to the main land use like Watch & Ward staff and Residential buildings for staff subject to a maximum of 20% of the total permissible built up area of the plot.*

7.3.2.4 Industrial (I)

TABLE 7-4: ACTIVITIES PROHIBITED IN INDUSTRIAL LAND USE ZONE

The Red and Orange (excluding Fishing related industries) category of industries as per CPCB classification are prohibited.

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
	Prohibited Uses/Activities		
1.	1) All Red and Orange (excluding Fishing related industries) category of Industries 2) Shopping malls, Cinemas theatres, Multiplexes		
	3) Residential developments*		>20% of the total built-up area
2.	1) Automobile/Mechanical/Electrical/Electronic Repair centres 2) Offices of Local body/Government/Semi-government/Private including Banks/Insurance 3) Hostels/Dormitories 4) Retail shops/stores 5) Restaurants 6) Private nursing homes/maternity homes/Clinic /Pathology Laboratories/Diagnostic clinics/Polyclinics/Physiotherapy centres	<12m	

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
	7) Social/Religious/ Recreational/Cultural/Community/ Assembly buildings 8) Sports centres/ Gymnasium 9) Battery recharge station 10) Telephone exchange buildings, Telecommunication towers, Wireless station 11) Junkyard		
3.	1) Hotels 2) Auditoriums, concert halls 3) Police station/Fire station (with essential residential accommodation) 4) Bus/goods/truck terminals & Transport depot and Offices 5) Truck parking/parking lots 6) Motor garage & workshops 7) Retail outlets of Domestic gas cylinders with storage godown. 8) Fuel filling stations and Service stations 9) Multipurpose/Exhibition grounds 10) Building materials storage complexes 11) Slaughterhouses 12) Cold storage 13) Common Effluent/Sewage/Water Treatment Plants/Integrated Solid waste Treatment Plant 14) Solid waste dumping yards 15) Helipad	<18m	
4.	1) Container depot/Warehouse & Godowns	<24m	

Notes:

1) *All activities are allowed across the landuse by default unless explicitly stated as prohibited in the above list with considerations for the road widths and the built-up area.*
2) *The above list of prohibited activities is without restriction of Floor area unless and otherwise mentioned, and further subject to Planning norms in Section 7.4.*
3) ** - Activities that are incidental to the main land use like Shops, Watch & Ward staff and Residential buildings for staff subject to a maximum of 20% of the total permissible built up area of the plot.*

7.3.2.5 Public & Semi-Public (PSP)

TABLE 7-5: ACTIVITIES PROHIBITED IN PUBLIC & SEMI-PUBLIC LAND USE ZONE

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
	Prohibited Uses/Activities		
1.	1) Any activity that causes nuisance or is hazardous in nature. 2) Poultry farm, Agro farm, Aqua culture farm, Cattle sheds and Dairying activities 3) All category of industries excluding White Industries 4) Shopping Malls/ Shopping complexes and Multiplexes 5) Warehousing & godowns/ Building materials storage / Container Depot 6) Cold storage 7) Wholesale markets & Weekly markets 8) Slaughter-houses, 9) Junkyard		
	10) Residential Development*		>20% of the total built-up area
2.	1) Offices of Local body/ Government/ Semi-government/ Private including Banks/Insurance 2) Nursery/Primary Schools 3) Private nursing homes/maternity homes/Clinic 4) Pathology Laboratories/ Diagnostic clinics/ Polyclinics/ Physiotherapy centres 5) Social/Religious/ Recreational/ Cultural/ Community/ Assembly buildings 6) Creches/Tutorial coaching centers/Computer Training institutes/cybercafé/ ATM /Photo studios 7) Storage of Domestic gas cylinders 8) Restaurants 9) Retail shops 10) Gymnasium, spas, beauty parlours, Sports centres, swimming pool 11) Repair centres /Service stations 12) Hostels/ Dormitories/ Guest houses/ Dharamshalas/ Resorts 13) Old age homes/Orphanages 14) Telephone exchange buildings, Telegraph office 15) Affordable Housing/ Resettlement projects	<12m	

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
3.	1) Middle/High/Higher Secondary school 2) Integrated schools with hostel facilities 3) Research & Development Centers, Testing Laboratories 4) Hotels 5) Government and private Hospitals, Specialty Hospitals, Hospitals for mentally challenged/ Terminally ill Patients / Infectious Diseases. 6) Radio, Television Station, Broadcasting Centres, Telecasting and Tele communication stations, Radio station, 7) Police headquarters, Police station/outpost, Fire station (with essential residential accommodation) 8) Fuel filling stations 9) Multipurpose grounds/Exhibition/Festival/Fair/Circus grounds, Camping grounds 10) Parking lots 11) Burial/cremation ground, Cemeteries 12) Common Effluent/Sewage/Water Treatment Plants/Integrated Solid waste Treatment Plant 13) Solid waste dumping yards 14) Helipad 15) White category of Industries	<18m	
4.	1) College, Technical Institutions and universities 2) Sports stadium 3) Bus terminals/transport depot/ Truck parking/ Workshops for buses, trucks etc.	<24m	

Notes:

1) *All the new developments will be required to provide a minimum road width of 12m. However, in case of existing developments on roads less than 12m, the planning permission in case of redevelopment/ reconstruction shall be provided as per the existing use of the building subject to the planning norms applicable in Section 7.4.*
2) *All activities are allowed across the landuse by default unless explicitly stated as prohibited in the above list with considerations for the road widths and the built-up area.*
3) *The above list of prohibited activities is without restriction of Floor area unless and otherwise mentioned, and further subject to Planning norms in Section 7.4.*
4) ** - Activities that are incidental to the main land use like Shops, Watch & Ward staff and Residential buildings (except affordable housing/ resettlement projects) subject to a maximum of 20% of the total permissible built up area of the plot, where incidental commercial/retail activities shall not exceed 5% of the total permissible built up area of the plot.*

7.3.2.6 Public Utilities

TABLE 7-6: ACTIVITIES PROHIBITED IN PUBLIC UTILITIES LAND USE ZONE

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
Prohibited Uses/Activities			
1.	All activities except: 1) Lands which are intended for accommodating the physical infrastructure required for Utilities such as Water supply, Sewerage, Storm water drainage, Electricity, Telecommunication & Solid Waste disposal facilities etc. 2) Water Treatment Plant, Sewage Treatment Plant, Wastewater Treatment Plant 3) Solid-waste landfill and management site 4) Power plants including Solar power plant/renewable energy plant 5) Telecommunication towers 6) Telephone exchange & Communication office 7) Police station/outpost and Fire station (with essential residential accommodation) 8) Fuel filling stations, Service stations		
2.	1) Residential Development*		>20% of the total built-up area

Notes:

1) *All activities are allowed across the landuse by default unless explicitly stated as prohibited in the above list with considerations for the road widths and the built-up area.*
2) *The above list of prohibited activities is without restriction of Floor area unless and otherwise mentioned, and further subject to Planning norms in Section 7.4.*
3) ** - Activities that are incidental to main landuse like Canteen, Shops, Watch & Ward staff and Residential buildings subject to a maximum of 20% of the total permissible built-up area of the plot.*

7.3.2.7 Transport & Communication (TC)

TABLE 7-7: ACTIVITIES PROHIBITED IN TRANSPORT & COMMUNICATION LAND USE ZONE

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
Prohibited Uses/Activities			
1.	All activities except: 1) Airport including buildings & infrastructure		

	2) International Container Transshipment Port (ICTP) including buildings & port infrastructure like cargo terminals, container yards etc. 3) Residential & supporting retail commercial, educational, health and community facilities, public utilities, parking, office buildings that are incidental to the main land use 4) The internal layout roads and the supporting facilities for the activities referred above shall be as per the norms of the concerned authorities.	<30m	
2.	All activities except: 1) Bus terminals/Transport depot including workshops, Fuel filling station, Battery recharge station/eV station, Offices that are incidental to the main land use, Information booths 2) Trucks Terminals/ Container depot/ Warehouses/ Godowns including workshops/repair facilities, Fuel filling station, Battery recharge station/eV station, Loading, unloading platforms, weigh bridges, Offices that are incidental to the main land use, Information booths **A] Supporting facilities ancillary to the main use subject to a maximum of 10% of total site area:** 1) Watch and Ward staff quarters 2) Convenient shops 3) Dormitories/Guest houses 4) Public toilets, Shower facilities with changing room **B] Utilities and Open spaces** 5% of the total site area shall be reserved for public utilities and 10% shall be earmarked for parks & open spaces **C] Internal road** The internal roads shall be of minimum 9m.	<24m	
3.	All activities except: 1) Transport offices 2) Fire station (with essential residential accommodation) 3) Radio, Television Station, Broadcasting Centres, Telecommunication towers, Telecasting and Tele communication stations, Wireless stations, Telephone exchange buildings 4) Helipads	<18m	

Note:

1) *All activities are allowed across the landuse by default unless explicitly stated as prohibited in the above list with considerations for the road widths and the built-up area.*
2) *The above list of prohibited activities is without restriction of Floor area unless and otherwise mentioned, and further subject to Planning norms in Section 7.4.*

7.3.2.8 Parks & Open Spaces (POS)

TABLE 7-8: ACTIVITIES PROHIBITED IN PARKS & OPEN SPACES LAND USE ZONE

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
	Prohibited Uses/Activities		
1.	All activities except: 1) Neighbourhood parks 2) Playgrounds 3) Plant nurseries 4) Green houses and Herbariums 5) Open-air Theatres **A] Supporting facilities ancillary to the main use subject to a maximum of 5% of the total site area:** 1) Watch and Ward staff quarters 2) Canteen/restaurant 3) Administrative Offices 4) Public toilets & Changing rooms with shower facility **B] Utilities** Up to 5% of the total site area can be used for public utilities/Infrastructure for water supply, water storage tank, sewerage, sanitation, storm water drainage, electricity, solid waste transfer station, pumping station, STP/WTP, Electricity sub-station, Telecommunication towers.		
2.	All activities except: 1) Botanical Gardens 2) Zoological Gardens 3) Birds Sanctuary 4) Multipurpose grounds, Exhibition grounds, Festival Grounds, Fair Grounds, Circus grounds, Camping grounds 5) City/Cluster/Node level Parks **A] Supporting facilities ancillary to the main use subject to a maximum of 5% of the total site area:** 1) Watch and Ward staff quarters 2) Convenient shops/canteen/restaurant	<18m	

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
	3) Dormitories/Guest houses 4) Administrative Offices 5) Public toilets & Changing rooms with shower facility 6) Bus shelters, Auto/Taxi stand, Parking lots **B] Utilities** Up to 5% of the total site area can be used for public utilities/Infrastructure for water supply, water storage tank, sewerage, sanitation, storm water drainage, electricity, solid waste transfer station, pumping station, STP/WTP, Electricity sub-station, Telecommunication towers.		

Note:

1) *All activities are allowed across the landuse by default unless explicitly stated as prohibited in the above list with considerations for the road widths and the built-up area.*
2) *The above list of prohibited activities is without restriction of Floor area unless and otherwise mentioned, and further subject to Planning norms in Section 7.4.*

7.3.2.9 Recreational (REC)

TABLE 7-9: ACTIVITIES PROHIBITED IN RECREATIONAL LAND USE ZONE

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
	Prohibited Uses/Activities		
1.	All activities except: 1) Recreational club 2) Swimming pool 3) Sports centres 4) Open-air Theatres 5) Bus shelters, Auto/Taxi stand, Parking lots, Multi-level Car parking 6) Fuel Filling stations, Service stations with installations not exceeding 30 HP **A] Supporting facilities ancillary to the main use subject to a maximum of 10% of the total site area:** 1) Watch & Ward staff quarters 2) Canteen/restaurant 3) Administrative Offices 4) Public toilets & Changing rooms with shower facility **B] Utilities**	<18m	

S.No	Types of Uses/Activities	Width of Access Road (metre)	% of Built-up area
	Up to 5% of the total site area can be used for Public utilities/Infrastructure for water supply, water storage tank, sewerage, sanitation, storm water drainage, electricity, solid waste transfer station, pumping station, STP/WTP, Electricity sub-station, Telecommunication towers.		
2.	All activities except: 1) Sports Stadiums (Indoor/Outdoor) 2) Entertainment & Amusement parks **A] Supporting facilities ancillary to the main use subject to a maximum of 10% of the total site area:** 1) Watch & Ward staff quarters and Residential buildings for staff 2) Convenient shops/canteen/restaurant 3) Dormitories/Guest houses/Hostels 4) Administrative Offices 5) Public toilets & Changing rooms with shower facility **B] Utilities** Up to 5% of the total site area can be used for Public utilities/Infrastructure for water supply, water storage tank, sewerage, sanitation, storm water drainage, electricity, solid waste transfer station, pumping station, STP/WTP, Electricity sub-station, Telecommunication towers.	<24m	

Note:

1) *All activities are allowed across the landuse by default unless explicitly stated as prohibited in the above list with considerations for the road widths and the built-up area.*
2) *The above list of prohibited activities is without restriction of Floor area unless and otherwise mentioned, and further subject to Planning norms in Section 7.4.*

7.3.2.10 Submergible Lands (SL)

Lands submerged during the Tsunami 2004 and the lands which are prone to flooding during monsoon and seasonal rains have been zoned under this classification. These lands are vulnerable to inundation and hence they do not qualify for any construction activity in the normal circumstances, to protect the lives and properties from calamities. However, total prevention of development in these lands will lead to reduction of substantial extent of land for development purpose. It is also found in cases that the vulnerability of these lands continues to diminish over time in view of changes in geo-climatic conditions and developments in their surroundings. Therefore, the Authority can consider and grant permission for construction activities in these lands on a case-to-case basis,

ensuring adequate protection in case of any exigencies. The following set of activities may be permitted in the lands identified as submergible lands in the land use plan.

i) Jetties, Light house and Coast guard tower.
ii) Weather radar for monitoring of cyclones prediction ocean observation platforms, movement and associated facilities.
iii) Projects classified or identified as strategic, Defence related projects and Projects of Department of Atomic Energy.
iv) Facilities for receipt and storage of petroleum products and liquefied natural gas.
v) Hatchery and natural fish drying.
vi) Salt harvesting and associated facilities
vii) Power by non-conventional energy sources including floating solar panels and associated facilities.
viii) Public Utilities
ix) Bird watching tower
x) Snack bars not exceeding 10 sq.m

7.3.2.11 Special Reservation (SR)

All lands which are to be protected, preserved and reserved for future development are covered under this zone. The different categories of these lands are as provided under:

1. Defence

Lands under occupation and ownership of military and defence services are covered under this Land use. These lands cannot be put to any other use without the approval of the competent defence authorities concerned. This zone will be subject to the relevant Defence rules.

2. Future Development Zone

As a part of development strategy for GNI, it is proposed to open up areas for development in phased manner especially considering the sustainability and carrying capacity of GNI. The potentially developable land has been identified in the north of Campbell Bay and on the western flank of Galathea Bay in the south of the development area, which has been reserved for future requirements. The future development zone in the north shall be opened as per the future demand for public infrastructure/services and/or large-scale projects related to tourism, educational institutions, adventure/theme parks, wellness centres and other supporting residential and commercial developments. The activities in future development zone earmarked on the western flank of Galathea shall be governed as per the provisions of environmental clearance.

3. Agriculture

All lands which are to be protected, reserved for promoting agricultural, plantation and farming activities are covered under this zone. No construction activities other than those which are incidental to the farming activities and those which cater to the needs of tourists, interested in witnessing and partaking in agricultural activities are generally permitted in this zone.

a) Construction activities incidental to farming activities include residential developments (subject to the condition that such developments are limited to a maximum of 3 dwelling units, each not

exceeding a floor area of 100 sq.m), animal husbandry activities, seed / fertilizer depots, agricultural godowns and warehouses, provided that the total floor area of all such activities do not exceed 10% of the total land area.

b) Construction activities which cater to the needs of tourists interested in witnessing and partaking in agricultural activities; include eco-friendly cottages / resting rooms for tourists and food bazaars, as per the guidelines specified under section 7.4.3.12.
c) Construction activities which cater to Poultry / Dairy Farming and Agro-based Industries not exceeding 20 % of the land area.

Note:

1. *Activities mentioned above are permissible in combination, provided that the total floor area of all such activities do not exceed 20% of the total plot area and also fulfil conditions stipulated under each case.*
2. *All activities are permissible only at the ground level or stilt + 1 floor level and expected to fulfil setback requirements as mentioned in section 7.4.3.1.*
3. *Maximum stilt height of 1m is permissible.*
4. *All activities are permissible only with sanction from the Authority.*
5. *Construction is not permissible on sub-divided lands, which were forming part of lands on which planning permission for construction has already been granted.*

4. Water Reservoir and Rainwater Harvesting ponds

Lands have been identified and reserved for meeting the potable water demand for the township through harvesting of rainwater in this reservoirs/rainwater harvesting ponds. No development activity shall be permitted within 100m buffer of the water reservoir, except the construction activities related to access road, pump house, water treatment facility (if any), Quarters for the ward and watch staff & staffs associated with management of water reservoir and allied activities.

No development activity shall be permitted within 15m buffer of the Rainwater Harvesting ponds, except the construction activities related to access road, pump house, water treatment facility (if any), Watch and Ward Staff quarters associated with management of Rainwater harvesting pond and allied activities.

5. Beach

No development activities/permanent structures are proposed to be permitted, except Public Toilets, Changing Rooms with Shower Facilities, Hatcheries, Nurseries, Camp Office, Police Post, Coast guard/Lifeguard tower, First Aid Centre, Lighthouse, Boat jetties & terminals and Parking.

6. Water Bodies

All existing water bodies such as rivers, streams, back waters, estuaries, lakes, ponds and tanks are covered under Water bodies land use. No construction is permitted in the water spread and the minimum distance of any building from the edge of natural drainage channels shall be as given below:

Type of Water body	Distance from the edge of water body
River Galathea	30m
Major drains/streams (Magar Nala, Swaroop Nala, Prem Bahadur nala)	15m
All other minor streams, ponds, water bodies	6m

No construction is allowed in and around the water bodies, except for open to sky jetties for boating, platforms for Fishing & rain shelters and snack bars not exceeding 10m^2 in area and not exceeding 4 in numbers around a water body and any utilities/activities ancillary to the utility without affecting the natural flow of the streams.

7. Area under Sea

No development activities/permanent structures are proposed to be permitted, except for jetties and their ancillary activities.

8. Mangroves

No development activity shall be permissible in the areas identified as Mangroves that include trees and shrubs which grow in saline coastal habitats in the tropics and subtropics.

9. Area for Green Development (No Tree felling zone)

Only passive recreation activities like forest trails, camping etc. can be allowed in this zone, as these forest lands and hillocks possess immense potential for eco-tourism. No permanent construction is allowed in this zone, except for Rope way and its terminals, eco huts (as per the guidelines applicable for eco cottages/huts in agriculture zone subject to no tree felling and number not exceeding 5 eco huts per sq.km), rain shelters, bird watching towers, forest guard post, watch & ward staff quarters, public toilets, signages & Information booths, snack bars not exceeding 10m^2 in area and any utilities/activities ancillary to the utility.

10. Pemayya Buffer

Pemayya Buffer is an area falling within 500m buffer from HTL on the western flank of Galathea Bay and declared as Coastal Protection Area and clearly demarcated in the Master Plan. No development activities except any activity permissible as per the environmental clearance and tribal settlements including services to support such settlements may be permitted in Pemayya Buffer.

7.4 Planning Norms

7.4.1 Applicability

The Planning norms prescribed below shall be applicable for various land use zones described above in section 7.3.1, except where specific restrictions/exemptions are defined with regard to the activities and the extent of development permitted under such circumstances.

7.4.2 Purpose of Planning norms

The purpose of these Planning norms is to ensure orderly and sustainable development without impacting on the fragile ecology prevailing over the Great Nicobar Island Development Area. The norms prescribed reflect the spirit of the Development proposals conceived in the Master Plan.

7.4.3 Planning parameters commonly applicable to all land use zones (Except where specifically restricted/exempted)

7.4.3.1 Setback Requirements

The setbacks and height stipulations given hereunder are applicable for all types of buildings except for Special developments defined in section 7.4.3.2 and High-rise buildings defined in section 7.4.3.13. Setback spaces in the front, rear and sides are mandatory for all forms of development.

TABLE 7-10: SETBACK REQUIREMENTS FOR ALL LAND USE ZONES

Plot size (sq.m)	**Maximum Building height (metre)**	**Minimum Front setback (metre)**				**Minimum setbacks**	
		Abutting road width				**Rear (metre)**	**Other sides (metre)**
		Less than 12 m	**12m and less than 18m**	**18m and less than 24m**	**24m and above**		
Up to 50	7	-	-	-	-	1	-
Above 50 and up to 100	7	1.5	1.5	-	-	1.5	-
Above 100 and up to 250	10	1.5	3	3	3	1.5	1.5
Above 250 and up to 500	12.5	3[#]	3	4.5	6	3	2.5
Above 500 and up to 750*	12.5					4	4
Above 750 and up to 1500*	15					5	5
Above 1500	15					6	6

Note:

1. ** If the length/depth of plot from the road is 50m or more, the approach to the building and open spaces on all its sides shall be not less than 6 m in width, and a turning radius of minimum 9 m shall be provided for fire tender movement.*
2. *The Plots above 250sq.m shall have minimum road width of 12m.*
3. *# For existing developments with plot size above 250 sq.m, a minimum front setback of 3m is to be provided.*
4. *The Apartments shall be permissible on plots sizes above 250 sq.m.*
5. *No Balcony projection or corridor shall be allowed to extend onto the minimum mandatory setbacks. However, a portico without access to the top may be considered in the front open space subject to free movement of fire tender as mentioned in (1). In all the setbacks spaces, unsupported sunshades are permissible to a depth of 0.6m.*
6. *The setbacks are to be left after leaving the affected area of the plot, if any, for road widening in the existing areas.*
7. *The building line is from the edge of the Road Right-of-way (whether existing or proposed)*
8. *Where the lighting and ventilation of a building is through the means of a chowk or inner courtyard or interior open space/duct, such open space shall be open to sky and of area at least 9.0 sq m and no side shall be less than 2 m.*
9. *For all residential/commercial/mixed-use/public & semi-public/industrial plots above 750 sq m, 5 % of the plot area over to the mandatory setbacks provided, has to be developed as an organized open space like tot-lot/landscaped area and trees planted & maintained. Such organized open space could be in more than one location and shall be of regular shape, subject to a minimum area of 36sq.m and minimum length/width of 6m.*
10. *The mandatory tree plantation defined in plot as per section (Planting of trees 7.4.3.5) shall be in the setbacks/periphery of the plot and planned/organized open spaces, provided that there is no hinderance to the driveway or Fire tender access as mentioned in (1).*
11. *To enhance the streetscape in respect of 18 m and above roads, no front compound wall is recommended along the front setback. Only iron grill or low height green hedge and / or with sloping type planters are recommended along such roads. This is a mandatory provision, especially for commercial streets in commercial/mixed-use land uses on 18m and above roads. The main building facade should face the street with active use within set back and transparent edge that contribute to street safety.*
12. *In all plots 750 sq m and above, provision shall be made for earmarking an area of 3m X 3m for the purpose of siting of public utilities like distribution transformer, etc. within the owner's plot subject to mandated public safety requirements.*
13. *In case of plots above 250 sq m and upto 750 sq m, it is permitted to transfer up to one metre of side setback from one side to the other side. In case of plots above 750 sq m and up to 1500sq.m, it is permitted to transfer up to 2 m of side setback, which nee ds to be uniform at any given point, subject to maintaining of minimum building line in the front and compliance of fire tender movement requirements as mentioned in (1)*

14. *In case of corner plot, the sides facing the road shall be treated as front side and regulations applied accordingly to maintain the building line on these roads and for providing better visibility.*
15. *In case of plot facing roads both in front and rear, both the sides facing roads shall be treated as front and other two sides not facing roads should be treated as sides and the setbacks be applied accordingly.*
16. *In case plot facing roads more than 2 sides, it shall be considered as corner plot taking two wider road into consideration and setbacks shall be applied accordingly.*
17. *For narrow plots (A plot is considered as a Narrow plot where the depth of the plot is 4 times or more the width of the plot), the setbacks on sides may be compensated in rear setbacks so as to ensure that the overall aggregate setbacks are maintained in the site, subject to:*
    a) maintaining a minimum of 1m on each side, except in case of plots up to 100 sq.m where the side setbacks are exempted, and
    b) Compliance of fire tender movement requirements as mentioned in (1)
18. *The height of the building will be calculated after including the stilt/parking floor but shall exclude the height of plinth.*
19. *The Floor-to-Floor height shall not be less than 3 m in case of residential buildings and 3.2 m for all other non-residential buildings. For Ground floor, the height is measured from the top of plinth beam to the finished floor level immediately above ground. For typical floors the height is measured from finished floor levels between two adjoining floors.*
20. *Plot bifurcation would be allowed for the plots, subject to a minimum plot size of above 100 sq m with minimum frontage of 6 m for each plot. Provided further that the front, rear & side setbacks of the original undivided plot shall be maintained and only the side setback where it shares a common boundary of bifurcated plots shall be exempted.*
21. *Plots amalgamation would be permissible for the size of amalgamated plot up to 250 sq.m on roads less than 12m and for amalgamated plots of size above 250sq.m on road width of 12m and above. Provided further, that rear & side setbacks shall be applicable as per the amalgamated size of the plot, however a front setback shall be applicable as per the setback requirements of the Original plot, subject to the provisions of fire tender movement as mentioned in (1), if applicable.*

7.4.3.2 Setback requirements for Special developments

i) In case of Assembly buildings, the open space in front shall be not less than 12m and the other open spaces around the building shall not be less than 6 meters. Provided further that the front open space shall be relaxed up to 6m in buildings with total assembly area of 1000 Sq.m.
ii) For Storage and warehousing buildings, in case of plots up to 500 sq.m area, the open spaces around the building shall not be less than 3 meters and for plots of more than 500 sq.m area, the open spaces around the building shall not be less than 6m.
iii) In case of Industrial buildings, the open spaces around the building shall not be less than 4.5m for heights up to 15m, subject to fire tender requirements as mentioned in footnote (1) Setback requirements 7.4.3.2.
iv) In case of Hazardous occupancies, the open spaces around the building shall not be less than 6m.

7.4.3.3 Parking Norms and Standards

I. For plots upto 250 sqm, the parking norms shall be:
   i. For plots upto 100 sqm, 1 two-wheeler space shall be provided for every 50sqm or part thereof
   ii. For plots above 100 sqm and upto 250 sqm, 1 car space shall be provided for every 100 sqm built-up area or part thereof.

II. For plots above 250 sqm, including residential & all other non-residential activities, provisions shall be made for parking spaces as per the following requirements.

TABLE 7-11: PARKING NORMS

Category of building/activity	Parking to be provided in percentage of total built up area
All Residential buildings, Apartments, Group housing, Hospitals, Institutional buildings, Industrial buildings, Storage & godowns, Schools, Colleges & other educational buildings	20%
Hotels, restaurants, resorts, Cinema halls, business buildings, other commercial buildings, Kalyana Mandapams, Private & Government Offices, recreational buildings, sports centres, religious buildings, shopping malls with Multiplexes, Multiplex Complexes, Information Technology Enabling Services Complexes	30%

Note:

1) *The parking spaces may only be provided :*
   a. *On multi-level (allowed for plots 750 sq m and above only); or*
   b. *On stilt floor; or*
   c. *In the open space over / setbacks (except the front setback for plots above 250 sq.m) to be left around the building with adequate vehicular access, aisle, drives, ramps required for maneuvering of vehicles, or*
   d. *Common pool parking area (in the case of Group development/ Row housing schemes) or*
   e. *a combination of any or all the above*
2) *The dimension of the parking stall for different vehicles shall be 5 m x 2.5 m for cars, 1.8m x 1.2m for two wheelers and 10 m x 3.5 m for lorries.*
3) *For Group development, 10% of the required car/two wheelers parking spaces subject to a minimum of two car spaces and 2 two-wheeler spaces shall be reserved for the physically handicapped persons near the entrance.*
4) *The width of driveway shall be 3.5 m for one way movement and 7 m for two-way movement. The width of the entry and exit gates shall be a minimum of 3.5 m*
5) *The minimum inner turning radius for cars in driveway and ramps shall be 3.5 m. For trucks and lorries, the inner turning radius shall not be less than 7m.*
6) *The gradient in ramps shall not be steeper than 1:8 and the slope of the parking spaces shall not be more than 4% in any direction.*
7) *For multi-level parking spaces upper storeys of parking floors, at least two ramps each of a minimum of 3.6 m width or one ramp of minimum 5.4 m width and adequate slope shall be*

provided. Such ramps may be permitted in the side and rear setbacks after leaving sufficient space for the movement of fire-fighting vehicles. Access to these may also be accomplished through provisions of mechanical lifts.

8) *Visitors' parking to be provided shall be 10% of the total parking area mentioned in the above Table and may be accommodated in the mandatory setbacks, wherever such setbacks are more than 6m. The Visitors' Parking facility shall be open to all visitors.*
9) *In respect of Apartment Complexes / Building / Block, in sites up to 750 sq m the Parking requirement shall be met if the entire stilt floor is left for parking. A WC/Toilet facility shall be provided for watch and ward staff in the stilt floor. In addition, generator room and electrical panel shall be permitted in stilt floor.*
10) *For Stilt floors used for vehicle parking a minimum height of 2.7 m is provided from the floor level to the bottom of the roof slab above subject to the condition that a minimum of 2.4 m is provided from the floor level to the bottom of the beam above. The height of stilt shall not exceed 3.2m, however, higher clear height of stilt is allowed in case of hospitals, shopping mall, hotel etc, as per requirements.*
11) *The width of aisle in car parking lots shall be as described below:*

TABLE 7-12: WIDTH OF AISLE IN CAR PARKING LOTS

Description	**Parallel parking**	**Angular parking up to 60^0**	**Angles above 60^0 and perpendicular parking**
Two wheelers	2.5m	2.5m	2.5m
Four wheelers	3.5m	3.5m	6.0m
Trucks & Lorries	7.0m	3.5m	10m

7.4.3.4 Compound wall

1) Compound wall not exceeding 1.5m in height from the crown of the road may be permitted on all other sides of the plot, except on front side where opaque compound walls taller than 0.5m are prohibited across all use /building types (excluding high security / strategic / defence establishments / burial ground/cremation ground/public utilities) subject to provisions of footnote (11) in 7.4.3.1. Fences / railing / low height hedge plants etc. that allow visual permeability could be used above 0.5m height. A compound gate shall not be constructed or permitted on the curvature of the compound wall at the junction of the roads.
2) No partition wall shall be allowed anywhere in the setbacks of a building unit. Provided that a partition wall up to 1.5 m height shall be permitted on the common boundary of semi-detached building.
3) No gates of compound walls shall open outward and shall be provided with a contrivance which shall prevent the gate from opening outward on the footpath or road.
4) The entry or exit to the plot situated at the junction of the roads having a width of 12m or more shall be located at least 15 m away from the corner point of the plot on such junctions. If the length of a side in such a plot is less than what is prescribed above, such entry or exit shall be provided at the farthest end of the plot from the junction.

7.4.3.5 Planting of Trees

A minimum of 1 tree for every 80 sqm of the plot should be planted and maintained for all plots of 2000 sqm and above. The existing trees shall be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping.

Note:

1. *The type of plants, the distance between trees/plants from the building and the distance between the plants shall be carefully worked out keeping in view the structural safety and aesthetic requirements of buildings.*
2. *At least 50% of the organized open spaces like tot-lot, landscape lawn etc. wherever mandatory, shall be pervious and use of grass pavers, paver blocks with at least 50% opening would be considered as pervious surface.*

7.4.3.6 Rainwater Harvesting

Effective measures shall be taken by the owner within each premises for conservation of rainwater through rainwater harvesting measures and use of recycled water to the maximum extent possible to the satisfaction of the Authority. Collection of rainwater from roofs and terraces and directing the same either to storage tank or to recharging well may be insisted by the Authority. As per the Notification No 3-27/2008/PR(PF) of Andaman and Nicobar Administration dated 04th February 2020, the following rules shall apply:

a) Every person who constructs, re-constructs, adds to a building or alters it shall provide a proper spout/tank for collection of rainwater which shall be utilized for various domestic purpose other than drinking, as provided at the following clauses.
b) All buildings in plots, which have more than 100sq.m shall have rainwater harvesting structures and the size of the tank shall be arrived to store for minimum 10 days water requirement of households. The provisions of rainwater harvesting in various land uses are given here under:
The provisions of rainwater harvesting in various building types are:

Category/ Use	Area of Plot (sq. m)	Provision to be made	Other conditions
Residential			
New proposals	100 and above	Construction of Rainwater Harvesting Structure	Shall have emphasis on both Storage and Reuse
Group Housing			
All proposals	All plot sizes	i. Construction of Rainwater Harvesting structure ii. Concrete paving to be avoided and permeable materials are to be used for all open parking spaces.	Should indicate the system of Storm Water Drainage. Rainwater Harvesting Structure and Recharging Well.

Category/ Use	Area of Plot (sq. m)	Provision to be made	Other conditions
Public and Semi Public buildings			
All proposals	All plot sizes	i. Shall have Rainwater Harvesting structure and storage. ii. Shall have Recharge pits.	Shall have emphasis on both storage and reuse.
Commercial/Mixed use			
All proposals	All plot sizes	i. Construction of Rainwater Harvesting structure. ii. Soft landscape provisions and open spaces with Percolation pits. iii. Common treatment plant to be made part of the integrated development funded by sale of commercial space.	Should indicate the system of Storm Water Drainage, Rainwater Harvesting Structure and Recharging Well. Shall have emphasis on both Storage and Reuse.
Industrial			
All proposals	All plot sizes	i. Construction of Rainwater Harvesting structure. ii. Soft landscape provisions and open spaces with Percolation pits. iii. Common treatment plant to be made part of the integrated development funded by sale of commercial space.	Should indicate the system of Storm Water Drainage, Rainwater Harvesting Structure and Recharging Well. Provision should be made not to inject contaminated water into recharge structure in industrial areas and care is to be taken to keep such structures away from sewer lines, septic tanks, soak pits, landfill and other sources of contamination.

c) All such public open spaces, parks, public grounds, school playground, stadium and other public open spaces above the extent of 500 sq.m, open area shall have system to capture rainwater/ storm water.

d) The lawns/open spaces of Govt. Bungalows/Buildings/Institutions shall construct surface/sub-surface tanks for storage for rainwater and Reuse for other usage, except drinking and cooking.

7.4.3.7 Renewable Energy Augmentation

Ancillary Solar / Wind or any other form of non-conventional energy system shall be provided for all buildings/building complexes having total floor area greater than 1000 sq.m. The same shall be shown in the plans submitted for Planning Permission. Such a system shall be capable of meeting a minimum of 25% of the estimated power requirements.

The Authority reserves the right to ensure that the facilities provided are installed and maintained to the satisfaction of the Authority.

7.4.3.8 Solid Waste Management

The proposals for development of group housing, Commercial, Institutional or any other non-residential complexes exceeding 200 dwelling units or having a plot area exceeding 5000 sq.m shall have a separate space demarcated for segregation storage and decentralized processing facility for Solid waste within the complex and the same shall be incorporated in the layout plan while applying for planning permission.

7.4.3.9 Special Rules for Group Development Schemes

1. Group development schemes are reckoned as residential blocks of buildings two or more in number, in case of Group housing (Residential) scheme (or) two or more Non-residential blocks in case of Non-Residential scheme and a mix of any number of Non-residential & Residential blocks in case of Mixed-Use schemes.
2. All Group Development Scheme proposals shall be submitted along with:
   a) A Services and Utilities Plan as per standards for water supply system, drainage and storm water disposal system, sewerage system, solid waste segregation storage & processing facility (if applicable), renewable energy and for other utilities.
   b) A landscaping plan including rainwater harvesting structures.
   c) Parking & internal Circulation Plan along with Common pool parking area plan, if any.
3. The minimum plot size for Group Development Scheme shall be 2000 sq.m and the minimum abutting road width shall be 12m or more.
4. The minimum open spaces/setbacks for such type of development shall be as follows:

TABLE 7-13: MINIMUM OPEN SPACES/SETBACKS FOR GROUP DEVELOPMENT BASED ON BUILDING HEIGHT

Height of the building block	Distance to be maintained from the periphery to building block (metre)	Clear distance between two blocks (metre)
Up to 10m	As per Table 7-10 in section 7.4.3.1	1/3rd the height of the building subject to a minimum of 2.5m.
Above 10m and up to 15m		1/3rd the height of the building subject to a minimum of 4m.

5. In the case of Group housing and Mixed-use group developments, Common amenities and facilities like shopping center, community hall or center / club house etc. are required to be provided in up to 5 % of the plot area. These common amenities and facilities shall be planned and developed in cases where the dwelling units are above 50 in number and shall not be part of the residential blocks.
6. A public access road of 12m RoW is to be developed on any one side at the periphery/ as per suitability and feasibility for the convenience of accessibility of other lands located in the interior as per the decision of the Authority.
7. The minimum width of internal vehicular driveway shall be 3.5 m for one way movement and 7 m for two-way movement. Such vehicular access shall be available for every building block in the site within a distance of 50 m.

8. Minimum of 10 % of site area shall be earmarked for organized open space and be utilized as greenery, tot lot or soft landscaping, etc. and shall be provided over and above the mandatory open spaces/setbacks. This space may be in one or more pockets.
9. Any interlink such as connecting corridors etc., between two buildings shall not be construed as making any two buildings into one block. However, if these blocks are connected solidly atleast for one third of any one block on the connecting side, then such blocks shall be construed as a single block.
10. The Group development scheme shall follow the provisions under 'Rights of Persons with Disability Act 2016'.

7.4.3.10 Special rules for Row housing/Row type shopping precinct

1. The minimum land area required for developing row housing/row type shops is 1000 sq.m
2. The minimum plot size for row housing/row type shops shall be 50 sq.m and the maximum plot size shall not exceed 250sq.m, having not more than 8 plots developed in a row.
3. Separation between two blocks shall not be less than 6m, which may be an open space or an alley/pedestrian plaza. Only internal staircase would be allowed.
4. The minimum width of access road shall be 12m for the Row type scheme/layout. The minimum width of internal circulation roads in the layout/scheme should be 9m.
5. Minimum 10% of overall site area to be earmarked as Open space.
6. The maximum permissible height for plots up to 100 sq.m is limited to G+1 or 7m, and for plots more than 100 sq.m can go up to G+2 or 10m. A common pooled parking area would be permissible as per parking requirements.
7. Minimum setbacks of 3m in the front and 1.5m in the rear shall be maintained for back-to-back plot developments.
8. In case of very large projects more than 2 ha, common amenities and facilities like shopping center, community hall/club house etc. are required to be provided in 5 % of the land area.
9. In case of Row type shopping precinct, a common parking lot would be permissible as per parking requirements.

7.4.3.11 Special rules for Cluster housing

Cluster housing or cluster developments are permissible with the following stipulations:

a) The minimum land area shall be 1000 sq.m.
b) The minimum plot size for cluster house shall be 30 sq m with maximum number of 20 houses in a cluster.
c) The minimum size of cluster open space shall be 36 sq m with a minimum width of 6m.
d) The minimum access road to the Cluster Housing Complex shall be 12m and the Internal access may be through pedestrian paths of 6m. The parking shall be in a common pooled parking area.
e) The minimum space between two clusters shall be 6m which may be utilized as pathway/alley/ pedestrian plaza
f) Setback regulations as given in 7.4.3.1 shall apply to the land conceived for Cluster housing and no setbacks are needed for Cluster housing Plots as the lighting and ventilation is either from the central open space of cluster and the surrounding pedestrian pathway/ access road of the

cluster. However, interior courtyards may be provided for larger plots and building areas to facilitate lighting and ventilation.

g) Minimum size of cluster / courtyard/ open space and height permissible shall be:

TABLE 7-14: MINIMUM COURTYARD/OPEN SPACE SIZE AND HEIGHT PERMISSIBLE IN CLUSTER HOUSING

Sl.no	Courtyard/Cluster open space to be left (metre)	Height of building permissible (metre)
	36 sq.m with minimum 6m width	2 floors or 7m
	50 sq.m with minimum 7m width	3 floors or 10.5m
	64 sq.m with minimum 8m width	4 floors or 14m

Note:

1. *The cluster open space may be either centrally located or could be an end-cluster. The abutting road width shall be minimum of 9 m.*

7.4.3.12 Guidelines for Construction of Eco Resorts / Cottages & Resting Rooms in Agriculture Zone

The following guidelines shall apply for construction of eco cottages / resting rooms in agricultural zone.

i) Planning norms applicable are as follows.

a) Minimum abutting road width: 7m

b) Minimum plot frontage: 50m

c) Minimum plot size: 4000 sq.m

d) Maximum plot coverage: 10% of the plot extent

e) Maximum Spread: 1/3rd of the Plot extent, remaining 2/3rd of the plot extent to be used for agriculture.

f) Maximum building height: G or Stilt+1 or 5m (Maximum stilt height is 1m)

ii) Use of cement concrete is restricted to the level of sub-structure (plinth level) only except as permitted in the following points.

iii) Renewable and reusable materials other than cement concrete, hollow block/brick masonry with cement mortar are permissible for super structure including columns, beams and roof. However, to facilitate laying of service / plumbing lines in bathrooms / toilets, not more than two side walls are allowed to be constructed with conventional materials like hollow blocks / bricks etc and only bathroom/toilet area can be provided with RCC roofing.

iv) Only sloped roof is permissible for all developments except for bathroom/toilet area as permitted above.

v) The use of concrete cement shall be allowed in super structure for kitchen, dining and other common facilities and shall be restricted to 10% of the total floor area.

vi) In case buildings are constructed on stilts, the eco-friendly material other than cement concrete shall be used for flooring. However, bathrooms /toilets are exempted.

7.4.3.13 Special rules for High Rise buildings (Above 15m height)

1. The minimum size of the plot for High Rise building shall be 2000 sq. m.
2. The building bulk, coverage and height shall be governed by the minimum all-round setbacks to be left, the organized open spaces to be left and the height restrictions imposed by the Airport authority (if applicable) / Defence authorities (if applicable) and Fire Services Department.
3. Prior Clearance from Airport Authority: For any High-Rise building located in vicinity of airports, the maximum height of such building shall be decided in consultation with the Airport Authority and shall be regulated by their rules/requirements. Interstitial sites in the area which are away from the direction of the Airport Funnel zone and already permitted with heights cleared by the Airport Authority, shall be permitted without referring such cases to the Airport Authority.
4. Every application for approval of a site and for permission to construct or reconstruct or alteration of a building with High Rise building or alteration to existing High Rise building shall be made in the prescribed form and accompanied by detail plans floor plans of all floors, complete set of structural drawings and detail specifications duly certified by a qualified structural engineer, necessary prior clearance from the Airport Authority (if applicable), Fire services Department, A&N Administration, along with other particulars and details as may be required by the sanctioning Authority.
5. The minimum abutting road width and all-round open space for High rise Building / Complex shall be as follows:

TABLE 7-15: HEIGHT OF THE BUILDING AND ALL-ROUND OPEN SPACES/SETBACKS BASED ON MINIMUM ABUTTING ROAD WIDTH

Height of building	Minimum abutting road width required (in metres)	Minimum all-round open spaces and distance between blocks (in metres)
Above 15m and up to 21m	18	7
Above 21m and up to 24m	18	8
Above 24m	18	9

6. For upper floors from 2nd floor onwards, the balcony projection of up to 2 m may be allowed projecting onto the open spaces.
7. In case of high-rise buildings up to 30 m height, it is permitted to transfer up to two meters of setback from one side to the other side, which needs to be uniform at any given point, subject to maintaining of minimum setback of 7 m on all sides.
8. Where the lighting and ventilation of a building is through the means of a chowk or inner courtyard or interior open space/duct, such open space shall be open to sky and of area at least 25 sq m and no side shall be less than 3 m.
9. In every high-rise building site, an organized open space shall be utilized as greenery, tot lot or soft landscaping, etc. shall be provided over and above the mandatory open spaces to be left in and around the building. This space shall be at least 10% of total site area and shall be of regular shape. This may be in one or more pockets.
10. In addition to the above, a minimum 1 m wide green planting strip in the periphery on all sides within the setbacks, subject to requirements for free movement of Fire tender as mentioned in

footnote (1) of Table 7-10, are required to be developed and maintained in all high-rise building sites.

11. All high-rise buildings shall be undertaken by owners by engaging registered architect, licensed builders/developers and licensed structural engineers. The designs and building plans shall be countersigned by the owner, licensed developer, registered architect, licensed engineer and a qualified & licensed structural Engineer who shall be responsible for the supervision, structural safety, fire safety and specifications compliance of such buildings. Buildings shall be designed for compliance with earthquake resistance and resisting other natural hazards. The Completion Certificate shall mention that the norms have been followed in the design and construction of buildings for making the buildings resistant to earthquakes, compliance with structural safety and fire safety requirements.
12. The work of the building services like sanitation, plumbing, fire safety requirements, lifts, electrical installations, and other utility services shall be executed under the planning, design and supervision of qualified and competent technical personnel.
13. In addition to the required staircases and lifts, there shall be at least one fire escape staircase and lift. These staircases and lifts shall be certified from the manufacturer's authorized Service technical personnel from time to time.
14. Provision for power generators shall be necessarily made in such buildings.
15. These buildings shall be planned, designed and constructed to ensure fire safety requirements are met and maintained and shall comply in accordance with the Fire Protection Requirements of Andaman and Nicobar Fire services Department.
16. The facilities for providing fire protection and firefighting facilities in such buildings should be in compliance with the stipulations laid down and clearance issued by the Fire services Department from time to time. NOC from the Fire services Department shall be obtained from time to time regarding the fire safety requirements and facilities installed.
17. The parking requirements shall comply as given in these rules. The parking facilities and vehicles driveways etc. shall be maintained to the satisfaction of the sanctioning Authority.
18. Provide for solar water heating system in the building and solar lighting in the site for outdoor lighting, etc. and give a bank guarantee to this effect to the sanctioning authority for compliance of the same.
19. All buildings shall be designed and constructed to provide facilities to the differently abled persons in compliance with the Rights of Persons with Disability Act 2016.

Note – The authority may direct the owner to adopt any specific standards prescribed under any Indian standard codes/manuals/guidelines for planning and designing of the building/development, as may be required in the interest of aesthetics, safety, security and sustainability considerations.

7.4.3.14 Special rules for Wastewater treatment in large scale developments

For Group housing development or High-rise buildings having total built-up area of 50,000sq.m and above (or) such developments with 600 or more dwelling units (or) having total land area of 3ha and above, the applicant shall be required to make arrangements for Treatment of wastewater generated,

within the premise. The applicant shall also be required to mandatorily provide dual plumbing system in the buildings for the use of recycled water.

7.5 Layout & Subdivision Regulations

7.5.1 Applicability

These Layout and subdivision Regulations are applicable for the entire Great Nicobar Island Development Area.

7.5.2 Definition

Layout means division of Land in plots exceeding eight in number. Sub-division means division of plots not exceeding eight in number for residential purposes.

7.5.3 Purpose of Layout & Subdivision regulations

The Purpose of these Regulations is to ensure that plots intended for developments are directly accessible from passages / streets / roads and the road network is designed with proper hierarchy with width depending on the length and anticipated intensity of development on the plots. The Regulations further ensure that proper open spaces for Playgrounds, Parks and common amenities intended for public use are provided.

7.5.4 Applicable Norms

A. Residential layouts

Layouts intended primarily for residential activities are covered under this category. In addition to the same, reservation of land for open space, civic amenities and EWS (Economically weaker section) is an essential requirement in Residential layouts. Also, the width of passages, streets and roads are governed by the length of the same and intensity of development in the layout. Following are norms for Residential layouts.

i) <u>Open Space Reservation norms</u>

Reservation of land for recreational purposes in a Layout or sub-division for residential Layouts shall be as follows:

TABLE 7-16: OPEN SPACE RESERVATION

Total area of layout in ha	Minimum open space required
Less than and up to 0.3	Nil
More than 0.3 and up to 5	7.5%
More than 5	10%

Note:

1) *While computing the area reserved for open space, public roads proposed in the layout which are to be handed over to the Authority are to be excluded from the overall area of the Layout. For subdivision of plots, it is not required to handover the passage to the Authority as the same can be a private passage.*

2) *The areas under open space reservation shall be handed over by the developer free of cost by means of a gift deed to the Authority after proper development and fencing. The Public Open spaces to be handed over to the Authority shall be planned to ensure that atleast one edge of the Open space is along the Public Right of Way.*
3) *The open spaces reserved shall be in a shape and location specified by the Authority. The land so reserved shall be free from any construction by the layout owner, developer or promoter.*

ii) Reservation of land for Civic amenities

Reservation of land for Civic amenities such as Health care facilities, commercial establishments, public utilities and offices of Govt. departments shall be as follows:

TABLE 7-17: RESERVATION OF LAND FOR CIVIC AMENITIES

Total area of layout in ha	Minimum area to be reserved
Less than and up to 1	Nil
More than 1 and up to 5	5%
More than 5	10%

Note:

1) *Reservation for civic amenities would be applicable only in the case of layouts exceeding 1 hectare in extent. While computing the area reserved for civic amenities, public roads and the OSR proposed in the layout which are to be handed over to the Authority are to be excluded from the total extent of the Layout.*
2) *The owner or developer shall develop such civic amenities for the benefit of the residents within two years of approval of Layout or shall hand over the land to the Resident's Association for utilizing the reserved lands for providing civic amenities only.*
3) *In the event of Government Departments proposing to utilize the reserved lands for providing public utilities or for providing offices for the use of public they are entitled to purchase to a maximum extent of 50 % of such reserved lands within one year of the layout approval, from the developer at market price.*
4) *In the Residential Layouts promoted by the Government departments, the area reserved for Civic Amenities shall be retained and put to use only for the designated purposes.*
5) *The land set apart for Civic Amenities shall be deemed to be zoned for commercial and public / semi-public land use zone as the case may be and planning norms as stipulated under these Regulations shall govern the developments in such plots.*

iii) Reservation for EWS (Economically Weaker Section)

In case where the area for the Residential layout exceeds 1 Hectare 10% of the Layout area (excluding roads) shall be developed as EWS plots and no conversion or amalgamation shall be permissible in these EWS plots.

iv) Width of Passages / Streets / Roads

The width of the streets / roads and passages is governed by the intensity of development, nature of development and length of the street / road / passage and the same shall be as per the table given below:

TABLE 7-18: WIDTH OF PASSAGES / STREETS / ROADS

Sl no	Description	Width of Street/Road
1.	When it is intended to serve up to 32 plots and length of street / road up to 400 metres	9m (7m for EWS)
2.	When the roads of length more than 400 m and up to 1000 m	12m (9m for EWS)
3.	When the roads of length more than 1000 m	15m (12m for EWS)

Note:

1) *For division of plots not exceeding 8 in number, the passages mentioned vide sl.no.1 above can remain private. However, for division of plots exceeding 8 in number, the streets / roads mentioned vide sl.no.1 to 3 above are to be necessarily handed over free of cost to the Authority by a gift deed.*
2) *The Authority reserves the right to modify the layout submitted by the applicant / owner and may impose any condition either from planning point of view or in the interest of public. To achieve a planned & coordinated development of GNI, the Authority reserves the right to ensure adequate linkages to the adjoining layouts / lands and the road network identified in the Master plan. The applicant/owner seeking approval of a layout shall be required to plan & develop a public access road of minimum 12m, along atleast one of the periphery of the land as per suitability and feasibility of integration with the other existing/proposed layouts and the proposed Master Plan roads, as per the decision of the Authority.*
3) *Cul-de-sacs: When the length of the road network proposed in the layout is within 60 metres of length, cul-de-sacs with a turnaround area of 9M x 9M at the closed end are permissible.*
4) *Gradient & Turning radius: The gradient for roads shall not be steeper than 1 in 10 and the minimum inner turning radius for roads shall be 3.5 M.*
5) *Splay: A splay at the intersection of two roads shall be provided subject to the minimum dimensions given below:*

TABLE 7-19: WIDTH OF ROAD AND SPLAY REQUIRED

SL NO	When the Narrower Road is of width	Minimum Splay required
1.	Up to 9m	1.5m X 1.5m
2.	More than 9m and up to 12m	2.5m X 2.5m
3.	More than 12m and up to 18m	3.5m X 3.5m
4.	More than 18m	4.5m X 4.5m

B. Industrial Layouts

Layouts intended for Industrial activities are covered under this category. In addition to the same, reservation of land for open space and civic amenities is a must in industrial layouts. Also, the width

of streets and roads are governed by the length of the same and the intensity of development in the layout.

The norms for industrial layouts are as follows:

i) Open space Reservation norms

Reservation of land for recreational purposes in a Layout for Industrial layouts shall be as follows:

TABLE 7-20: OPEN SPACE RESERVATION

Total area of layout in ha	Minimum open space required
Less than 5	Nil
More than 5 and up to 10	7.5%
More than 10	10%

Note:

1. *While computing the area reserved for open space, public roads proposed in the layout which are to be handed over to the Authority are to be excluded from the total extent of the Layout.*
2. *The areas under open spaces shall be handed over by the developer free of cost by means of a gift deed to the Authority after proper development and fencing. The Public Open spaces to be handed over to the Authority shall be planned to ensure that atleast one edge of the Open space is along the Public Right of Way.*
3. *The open spaces reserved shall be in the shape and location specified by the Authority. The land so reserved shall be free from any construction by the layout owner, developer or promoter.*

ii) Reservation of Land for Civic Amenities

Reservation of Land for providing Civic Amenities such as Commercial establishments, Health care facilities incidental to the Industrial use and Land for Public utilities and offices of Government departments shall be as follows:

TABLE 7-21: RESERVATION OF LAND FOR CIVIC AMENITIES

Total area of layout in ha	Minimum area to be reserved
Less than 5	Nil
More than 5 and up to 10	5%
More than 10	7.5%

Note:

1) *The area to be reserved for Civic Amenities is applicable for Layouts which are more than 5 Hectares.*
2) *The owner or developer shall develop such civic amenities for the benefit of those working in the industrial establishment within two years of approval of the Layout or shall hand over the land to the owner's Association for utilizing the reserved lands for providing the Civic amenities only*
3) *In the event of Government Departments proposing to utilize the reserved lands for providing public utilities or for providing offices for the use of public they are entitled to purchase to a maximum extent of 50% of such reserved lands within one year of the layout approval, from the developer at market price.*

4) *In the Industrial Layout proposed by the Government Departments, the area reserved for civic amenities shall be retained and put to use only for the designated purposes.*
5) *The Land set apart from Civic Amenities shall be deemed to be zoned for Commercial, Public, Semi-public, Transport & Communication, Public utilities as the case may be and the Planning norms stipulated under these Regulations shall govern the developments in such plots.*

iii) <u>Width of streets / roads</u>

The Width of streets / roads is governed by the intensity of development and the length of the roads and the same shall be as per the Table given below:

TABLE 7-22: WIDTH OF STREETS / ROADS

Sl no	Description	Width of Street/Road
1.	When it is intended to serve only one plot and length of street/road does not exceed 100 m provided it is linked to a street / road of width as stipulated in Industrial (I) 4.3.2.4	9m
2.	When it is intended to serve two to eight plots, and the length of the street/road does not exceed 200m provided it is linked to a street/road of width as stipulated in 107Industrial (I) 4.3.2.4	12m
3.	When it is intended to serve more than eight plots and the length of street exceeds 200m	18m

Note:

1) *For division of plots not exceeding 8 in number, the streets/roads mentioned vide sl.no.1 and 2 above can remain private. However, for division of plots exceeding 8 in number, the streets / roads mentioned vide sl.no.3 above are to be necessarily handed over free of cost to the Authority by a gift deal.*
2) *The Authority reserves the right to ensure adequate linkages to the adjoining layouts/ lands and the road network identified in the Master plan.*
3) *Cul-de-sacs: When the length of the road network proposed in the layout is within 60 metres of length, cul-de-sacs with a turnaround area of 15mx15m at the closed end are permissible.*
4) *Gradient & Turning Radius: The gradient for roads shall not be steeper than 1:10 and the minimum inner turning radius for roads shall be 7 M.*
5) *Splay: A splay at the intersection of two roads shall be provided subject to the minimum dimensions given below*

TABLE 7-23: WIDTH OF ROAD AND SPLAY REQUIRED

SL NO	When the Narrower Road is of width	Minimum Splay required
1.	Up to 9m	3.5m X 3.5m
2.	More than 9m and up to 12m	4.5m X 4.5m
3.	More than 12m and up to 18m	5m X 5m
4.	More than 18m	6m X 6m

7.6 Adherence to Other Norms and Standards

In addition to the norms prescribed under these regulations it is required to comply with the norms and standards prescribed from time to time by other departments / organizations / institutions wherever applicable. Some of these prescriptions are prescribed here under:

7.6.1 Protection against Earthquake

Andaman and Nicobar Islands fall under zone V which is seismically most active region where earthquakes of magnitude 8 or more in the Richter scale could occur. Therefore, adequate precautions shall be taken in design of structures in Great Nicobar Island Development Area. Every person who constructs, reconstructs, adds to or alters a building shall cause the design of the structure made safe for the components of earthquake vibrations as per the provision of the applicable Indian Standard Codes for seismic zone V.

7.6.2 Civil aviation requirements for construction in the vicinity of 'Aerodrome'

The buildings structures in the vicinity of existing and proposed aerodromes shall conform to the requirement of Civil Aviation Authority. The following provisions shall be applicable with regard to clearance from the Competent Authority.

i) For buildings in the vicinity of Aerodromes, the maximum height of such buildings shall be decided by the color-coded maps published by Airport Authority of India

ii) No building or structure higher than the specified height shall be constructed or erected, and no tree which is likely to grow or ordinarily grows higher than the specified height shall be planted in the Aerodrome vicinity area.

iii) In case of buildings or structures to be erected in the vicinity of defence aerodromes, the maximum height of such buildings shall be decided by the competent Defence Authority.

iv) The location of slaughterhouse/butcher house and other areas for activities like depositing of garbage dumps which would attract high flying birds like eagles, hawks etc. shall not be permitted in the Aerodrome vicinity area.

7.6.3 Coastal Regulation Zone

As per the amendment dated 1st January 2021 of Island Coastal Regulation Zone (ICRZ) Notification 2019 of Government of India, the Great Nicobar Island is categorized as Group II islands with geographical area >100 sq.km but <1000 sq.km.

The ICRZ shall apply to the land area between HTL to 100 meters or width of the creek, whichever is less on the landward side along the tidal influenced water bodies that are connected to the sea and the distance up to which development along such tidal influenced water bodies is to be regulated shall be governed by the distance up to which the tidal effects are experienced which shall be determined based on salinity concentration of five parts per thousand (ppt) measured during the driest period of the year and distance up to which tidal effects are experienced shall be clearly identified and demarcated accordingly in the Island Coastal Regional Zone Plans.

The intertidal zone means the land area between the HTL and the Low Tide Line (hereinafter referred to as the LTL). The total ICRZ area is the water and the bed area between the LTL to the territorial water limit (12 Nm) in case of sea and water and the bed area between LTL at the bank to the LTL on the opposite side of the bank, of tidal influenced water bodies. The coastal areas of the island coming under ICRZ are classified under 4 categories such as ICRZ IA, IB, III and IVB.

Since GNI lies in the Group-II island category, the area up to 50m from the HTL on the landward side shall be earmarked as the No Development Zone (NDZ), however activities can be permitted in land area between 20m to 50m from HTL, as per ICRZ Notification 2019

The detailed ICRZ regulations can be referred to in Island Coastal Regulation Zone (ICRZ) Notification 2019. These shall be applicable for all the lands falling within the CRZ boundary and any amendment to these regulations shall automatically become applicable, from the date of notification to these Development Regulations.

7.6.4 Provisions for persons with disabilities

Provision for persons with disabilities is a mandatory provision as per the Rights of Persons with Disability Act 2016, and the intent of the Act is to provide and ensure barrier free environment in the buildings and premises used by public. The following are some of the important provisions to be made:

i) **Site Planning:** Every building should have at least one access to main entrance /exit to the disabled which shall be indicated by proper signage. This entrance shall be approached through a ramp together with stepped entry. The ramp should have a landing in front of the doorway.

ii) **Parking:** Surface parking for at least two car spaces should be provided near entrance for the physically handicapped people with maximum travel distance of 30m from building entrance. The width of the parking bay shall be a minimum of 3.9m which includes transfer area besides the car of 1.5m. The information stating that the space is reserved for wheelchair users shall be conspicuously displayed.

iii) **Building requirements:**

1) For approach to the plinth level, and in other levels where ramps with gradients are necessary or desired, they shall conform to the following requirements. For approach to plinth level, the ramps slope shall not be steeper than 1:12 and its width shall be a minimum of 1.5m and its length shall not exceed 9 m. The ramp shall be provided with handrails on either side and its surface shall not be slippery. For ramps connecting various floors, the slope should not be greater than 1:20 and its width should be a minimum of 1.5m. The landing shall be a minimum of 1.5m x 3m and the length of the ramp shall not exceed 9m between landings. The ramp shall be provided with handrails on either side and its surface shall not be slippery.
2) Among the lifts provided within the premises at least one lift shall have the facility to accommodate the wheelchair size 80cm x 150cm.
3) The doors and doorways shall be provided with adequate width for free movement of the disabled persons, and it shall not be less than 90cm.

4) Stairs and ramps shall have the handrail facilities. The handrail shall be provided on both sides with a minimum clear space of 50mm from the walls and shall be continuous, even at the landings. Two handrails with a sufficient distance of 200mm shall be provided with the height of first handrail between 850mm to 950mm and second handrail between 650mm and 750mm above the surface of a ramp, the pitch line of a stair, and the surface of a landing.

5) Minimum one special WC in a set of toilets shall be provided for the use of handicapped with essential provision of washbasin near the entrance for the handicapped.

7.6.5 Criteria for setting up of Stone Crusher units

The criteria for setting up of Stone Crusher Units shall be governed as per the notification of the F.No. 10.12/PCC/Gen-Consent/2010/PF/216 dated 3rd August 2017 issued by the Andaman and Nicobar Administration Department of Science and Technology. The notification has been issued by the Administrator in exercise of powers conferred under section 5 of Environmental (Protection) Act 1986 (29 of 1986) read with Notification No. S.O. 667 (E) dated 10th September 1992, defining the criteria & guidelines for setting up of Stone Crusher Units in A & N islands. The same shall be applicable for GNI Development Area.

7.6.6 Provisions for Common Telecom Infrastructure (CTI)

The provisions for Common Telecom Infrastructure (CTI) shall be governed as per the prevailing rules under the notification No. 83/2024/F.No. 3-53/2018-UD dated 31st July, 2024 issued by the Andaman and Nicobar Administration Secretariat.

8 IMPLEMENTATION MECHANISM

8.1 Fundamentals for Plan Implementation

GNI, through its Master Plan, is envisaged to drive its economic strength from key economic drivers of ICTP and tourism (Hospitality, Gaming & Entertainment Hub), which shall be supplemented through other potential drivers like Wellness Hub, Knowledge hub, Finance Hub and Defense & Administrative establishments. Great Nicobar Island is unique and so is the Master Plan for the island. The proposed airport and upgradation of the jetties are the pre-requisites for ensuring access and connectivity to the island as well as realization of the proposed vision for the development of GNI.

Sustainable and environmentally responsible development has been the guiding principle in the development of the Master Plan, and accordingly, the development proposals under the plan have taken into consideration the key elements of carrying capacity, optimal utilization of land, and creating a balance between environment and human interface. Tourism here is poised for greater growth and set to gain a major share of the economy in the coming years.

Accordingly, the Master Plan has paid adequate attention on this sector and identified projects towards increasing the number of tourists and as well sustaining their interests. It is also important to review the Master Plan recommendations and the implementation in every 5-year period, in order to incorporate necessary changes in the plan, adjust timeframes and reorient development policies and strategies. Great Nicobar, being an island with very limited development, can be developed through planned interventions on a new township model. The change in demographic and socio-cultural profile of the populace expected to settle on the island or visit the island as tourists would not only have a bearing on internal and external economies but also require continuous monitoring of the evolution and development process of the island.

Thus, to translate the vision for the development of GNI through its Master Plan, there is a strong need for setting up a specialized nodal agency for the implementation of the plan, as well as coordination with other agencies and stakeholders. A Development Authority model is proposed to be adopted as part of the implementation framework which shall act as a single-point agency for facilitating and regulating all the development activities in GNI.

8.2 Institutional Framework

8.2.1 Constitution of a Development Authority

The Andaman & Nicobar Administration requires amendments to the Andaman and Nicobar Islands Town and Country Planning Regulation, 1994 to include provisions related to constitution and functioning of a Development Authority.

Once the necessary amendments are enacted, it is recommended to constitute the Development Authority by such name as may be notified for the purpose of preparation and implementation of Master Plans, Detailed Development Plans, Schemes and Projects for GNI. The Development

Authority shall be a body corporate having perpetual succession and a common seal with powers and functions.

8.2.2 Composition of Development Authority

The Development Authority shall consist of Chairman, Chief Executive Officer and other members not exceeding twenty, who in the opinion of Administrator are closely related with the Planning and Development of the area- representing Departments like Agriculture, Forest, Police, Tourism, Shipping, Power, Civil Aviation, Tribal Welfare, Town & Country Planning and APWD etc. & elected representatives, as may be notified.

8.2.3 Role of Development Authority

The objective of the Development Authority shall be to administer the affairs and secure the planned and sustainable development of GNI Development Area. The Development Authority is envisaged to perform the following broad functions:

a. to undertake the preparation of master plans and other Plans under the provisions of this Regulation for the development area;
b. to undertake the preparation and execution of town planning schemes or Local Area Plan under the provisions of this Regulation, if so, directed by the Administrator;
c. to carry out surveys in the development area for the preparation of Master plans and other Plans or town planning schemes or Local Area Plans;
d. to control the development activities in accordance with the Master Plan and other plans in accordance with the development plans in the development area;
e. to levy and collect scrutiny fees for scrutiny of documents submitted to the development authority for permission for development as may be prescribed by rules;
f. to enter into contracts, agreements or arrangements with any person or organization as the Area Development Authority may deem necessary for performing its functions;
g. to acquire, hold, manage and dispose of properties, movable or immovable, as it may deem necessary by agreement or other mechanisms like Land Pooling, Transferable Development Rights, Accommodation Reservations etc. or through proceedings under the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 for the purposes of this regulation;
h. to execute work in connection with supply of water, disposal of sewerage and provisions of other services and amenities or authorize any agency or any local body as may be notified by the Administrator, to provide it;
i. to levy and collect such fees and charges for the execution of works referred to in clause (8) and for provision of other services and amenities as may be prescribed in the rules or authorize any agency or any local body as may be notified by the Administrator to collect it;
j. The draft Master Plan will be submitted to Island Development Agency (IDA) for guidance and concurrence prior to its notification.

k. to exercise such other powers and perform such other functions as are supplemental, incidental or consequential to any of the foregoing powers and functions or as may be directed by the Administrator.

8.2.4 Other Key Implementation Agencies

Master Plan document has identified proposals towards realization of major economic drivers including ICTP, Tourism (Hospitality, Gaming & Entertainment Hub), Wellness Hub, Knowledge Hub and Finance Hub. Attention has also been given to identify proposals which could substantially enhance socio-economic conditions of the local population in the Master Plan.

Though, the Development Authority shall be the primary agency responsible for the implementation of the Master Plan for Great Nicobar Island, the other key agencies responsible for various sectoral functions would include Andaman Public Works Departments (APWD), Andaman & Nicobar Islands Integrated Development Corporation Limited (ANIIDCO), Department of Environment & Forest, Revenue Department, Nicobar District and Directorate of Tourism. In addition, the other critical and important departments for the development of social infrastructure facilities would include health, education, police, social welfare etc. shall play an important role in the overall development of GNI.

The departments responsible for the projects need to initiate actions towards the preparation of Detailed Project Reports and Environmental Impact Assessment Reports wherever necessary and obtain clearance from all relevant authorities. As land is an essential component of every project conceived in terms of spatial context, the government departments are to take appropriate steps in acquiring lands for the development projects through innovative means like by agreement or other mechanisms like Land Pooling, Transferable Development Rights, Accommodation Reservations etc. The Master Plan has clearly defined the land use zones, and Development Regulations applicable for each land use zone.

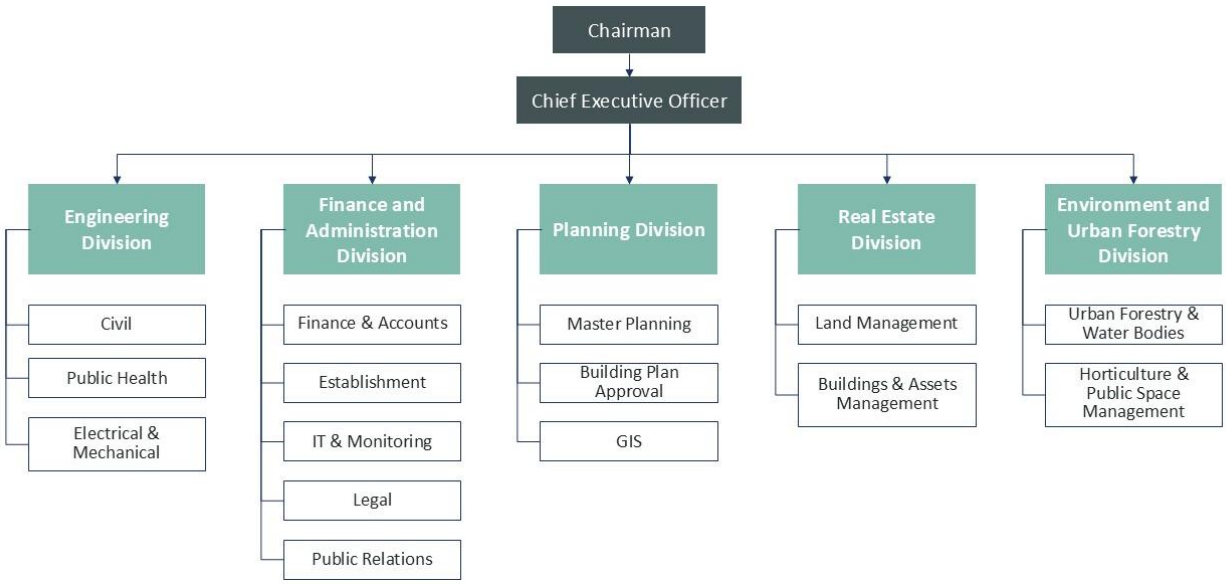
In context of the greenfield nature of development in GNI, the private sector agencies are also envisaged to have a very critical role in development process besides government investments in trunk infrastructure. The key areas for involvement of private sector would include real estate development including residential, hospitality and commercial, tourism attractions like adventure parks, theme parks etc., setting up institutions in the fields of wellness, research & knowledge, and transport services. The private developer would also be encouraged for private land assembly and land development for various activities referred herein above for which the Authority is envisaged to play the role of facilitator or partner with the private operator and the land owners through Joint Development Agreement Model.

8.3 Organizational Structure and Monitoring Mechanism

The regular day-to-day monitoring of the projects and the development activities in GNI shall be the responsibility of the Chief Executive Officer of the Development Authority who shall be supported by different divisions related to Planning, Engineering, Finance & Administration, Estate, Environment

& Urban Forestry. An indicative broad organizational structure of the Development Authority for GNI is given in Figure 5-1.

FIGURE 8-1 : ORGANISATION STRUCTURE



(Source: Consultant's Analysis)

The IT & Monitoring Cell under the Finance and Administration Division shall be a dedicated unit directly reporting to the CEO and shall be responsible for assimilating the data related to all projects and activities being undertaken by various divisions of the Authority. It will also be responsible for providing the necessary IT support to all the divisions in the Authority.

In addition to the day-to-day monitoring, there is a strong requirement for periodic monitoring at the higher administrative level. In this context, it is proposed to set up a Steering Committee under the Chairmanship of the Chief Secretary, Andaman & Nicobar Administration for the inter departmental coordination and monitoring of the implementation of the projects and proposals under the Master Plan. The Steering Committee shall include the Secretaries of all the key departments for efficient implementation of the projects under GNI.

8.4 Regulation on Land and Building Development Activities

At present the building and land development activities in GNI are governed by the Andaman and Nicobar Islands (Panchayat Administration) Rules, 1997. Post notification of the Master Plan for the Development Area of GNI, under the Andaman and Nicobar Islands Town and Country Planning Regulation, 1994, the provisions contained as 'Development Regulations' in this Master Plan shall apply to all developments within the notified development area. No development of land in the Development Area shall be undertaken or carried out except by or with the permission of the Development Authority. In such case, everybody (including Departments of Government of India or the Administration), desiring to undertake any development in the Development Area shall obtain the permission, in writing, by making an application under the provisions of the rules framed within the framework of Andaman and Nicobar Islands Town and Country Planning Regulations, 1994.

8.5 Land Status, Land Procurement and Land Disposal

Availability and possession of land is another critical dimension, in plan implementation. Land is an asset and serves as a resource for development. In most development projects, the share of the land cost is significant. In case of GNI, presently, about 70% of the land within revenue villages (including Deemed Forest – about 20 percent), comes under the ownership of revenue department and other agencies of the government.

For the planned development and effective implementation of Master Plan in GNI, it is proposed to empower the Development Authority with powers to acquire/ assimilate land within the Notified Development Area required for public purpose in accordance with the provisions of the law. It is also proposed that all the government lands within the Notified Area shall vest with the Authority.

The transfer and utilization of Diverted Forest lands within GNI shall be governed as per the fulfilment of conditions under in-principle approval/ Stage 1 clearance accorded vide File No. 8-22/2020-FC dated 27th October, 2022. The Authority shall be required to comply with the regulations and obtain necessary clearances/ permissions required from the Forest Department under the relevant Acts.

Private land would be acquired through proceedings under the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 or could also be acquired by agreement or other mechanisms like Land Pooling, Transferable Development Rights, Accommodation Reservations etc.

Out of the 3 key Anchor Projects (Port, Airport and Powerplant), there is no land acquisition involved in Port and Powerplant projects as these are planned in Diverted Forest land and reclaimed land from the sea. The Airport project involves acquisition of private land and the acquisition cost for the same will form part of the project cost of the airport.

Efforts have been made to allocate the land for public facilities like water reservoirs, WTPs, parks and open spaces/ recreational use, bus terminals & freight complexes and other similar facilities in land parcels belonging to the Government. Additionally, the land supporting for other economic drivers like Wellness Hub, Knowledge Hub and Financial Hub has also been identified within the land parcels belonging to government. Majority of land parcels along the coastline forming the beaches of GNI also fall under the category of government land. The broad assessment of the land requirement for the North-South Road, also indicates that a major part of the land falls under the diverted land or government land and only small share of private land would be required for acquisition.

The Authority on acquisition of land or building for public purposes or belonging to the Development Authority or transferred to the Development Authority in the development area, shall be empowered to sell, lease, dispose or otherwise transfer whether by auction, allotment on such terms and conditions as it may, subject to any Rules that may be made in this regard.

To attract private investment, a flexible approach may be adopted, incorporating options for selling, leasing, or other forms of land transfer. For instance, the installation system for lease premiums could be considered, with lower upfront costs and slightly higher annual lease premiums to make the investment viable, while also offering the possibility of land sales or transfers, depending on the

nature of the investment. While conceiving the PPP models for implementing the infrastructure development projects, providing land for the project could be the share or equity in the investment by the Authority.

8.6 Resource Mobilization

As already mentioned, GNI needs to be looked at as a new township project with initial impetus for development coming through budgetary allocations especially for key anchor projects including ICTP, Airport and Powerplant. These would need to be funded through the budgetary allocations to the concerned Ministry/ Departments. In addition, the Development Authority would also require budgetary support routed for the development of trunk physical infrastructure through the concerned Ministries/Departments of GoI or A&N Administration. The trunk infrastructure includes North-South Road link (connecting jetty to the proposed site for Defense establishment), power transmission grid, strengthening of jetties, development of water reservoirs & WTPs.

The Development Authority would need to be provided with certain Seed Capital for its initial stages and shall be required to maintain its own funds. The funds of the Authority would include:

a. all money received by the Development Authority from the Administration by way of grants, loans advances or otherwise.
b. all money borrowed by the Development Authority from sources other than Administration by way of loans or debentures.
c. all fees, tolls, charges, fees etc. received by the Development Authority.
d. all money received by the Development Authority from the disposal of lands, buildings and other properties movable and immovable, and
e. all money received by the Development Authority by way of rents and profits or in any other manner or from any other sources.

The projects intended to promote tourism are capital intensive and require longer gestation period. The Government of India encourages and supports several projects through the Schemes of various Ministries. In this context, the initial investments would also be required towards the development of facilities to promote and support tourism activities. The tourism related facilities in the township would include development of economy/mid-range hotels, service apartments, eco-tourism including nature trails, beachfront development (public toilets, changing rooms, coast guards, seating areas, landscaping, parking, etc) in the identified beach areas and allied facilities to facilitate implementation of development projects in GNI. The schemes/programmes of the Ministry of Tourism, Ministry of Culture, and other relevant Ministries of Government of India to be accessed for financing the tourism related infrastructure facilities. The entire philosophy of financing the development of GNI needs to be aligned with the principles of convergence and channelization of resources available with various Ministries/ Departments of GoI under various schemes/programmes using PM Gati Shakti platform.

The upgradation and/or creation of additional social infrastructure facilities to support the population attracted for implementation of initial phase of development shall be the responsibility

of the Development Authority for which the necessary provisions shall be made in the annual budgets of the departments concerned.

Though most of the State Governments in India are targeting private sector investments through various PPP concepts for implementing tourism projects, it would require initial push to attract tourists and thus, the private investments in tourism development in GNI. Following the implementation of initial anchor and infrastructure projects, the foundation would be ready for attracting investments from the private sector either fully or through Public Private Partnership (PPP) mode especially in the areas of hospitality, gaming/entertainment activities, commercial and residential development in the GNI.

The other potential economic drivers like the Wellness Hub could be promoted and developed with a focus on traditional systems of medicine. The financial assistance available under National Ayush Mission (NAM) along with other schemes of the Government of India could be explored to attract the private sector investment for setting up of institutions/ health facilities/ units for production of Ayurvedic/ traditional medicines.

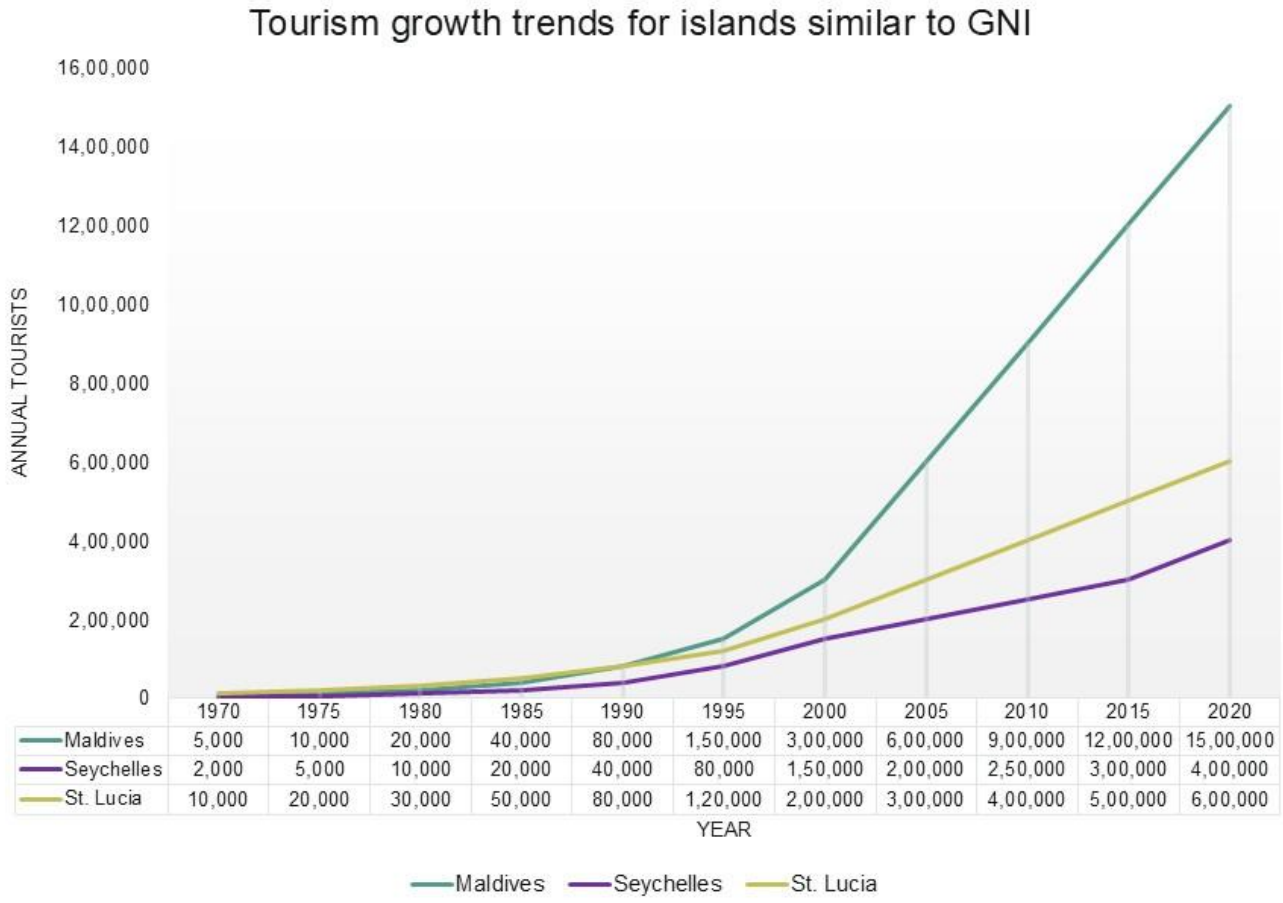
The Government of India envisions to set up a Financial Hub at GNI considering the ICTP and its strategic location on the global trade route. The necessary regulatory support would be required for the setting up of the Financial Hub from the International Financial Services Centres Authority (IFSCA), which is a unified authority in the country for the development and regulation of financial products, financial services and financial institutions.

ANNEXURES

9 ANNEXURES

9.1 Annexure I – Benchmarking for Tourism & Entertainment Hub

Tourism – Positioning Great Nicobar Island



	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
Maldives	5,000	10,000	20,000	40,000	80,000	1,50,000	3,00,000	6,00,000	9,00,000	12,00,000	15,00,000
Seychelles	2,000	5,000	10,000	20,000	40,000	80,000	1,50,000	2,00,000	2,50,000	3,00,000	4,00,000
St. Lucia	10,000	20,000	30,000	50,000	80,000	1,20,000	2,00,000	3,00,000	4,00,000	5,00,000	6,00,000

- Through the tourism growth trends for globally renowned tourism destinations like Seychelles, St. Lucia and Maldives, **it is seen that it took 35-40 years to reach an annual tourist influx of 1 million.**
- Considering that the proposed Airport will be operational by 2029, it is estimated that **GNI can reach an annual tourist influx of 1 million by 2055** (~25 years from the beginning of tourist influx on the island).
- This induced scenario considers **sustained marketing and promotion** efforts by GoI to develop GNI as a **unique tourism destination** in India, comparable to best-in-class eco/ coastal tourism destinations **globally.**

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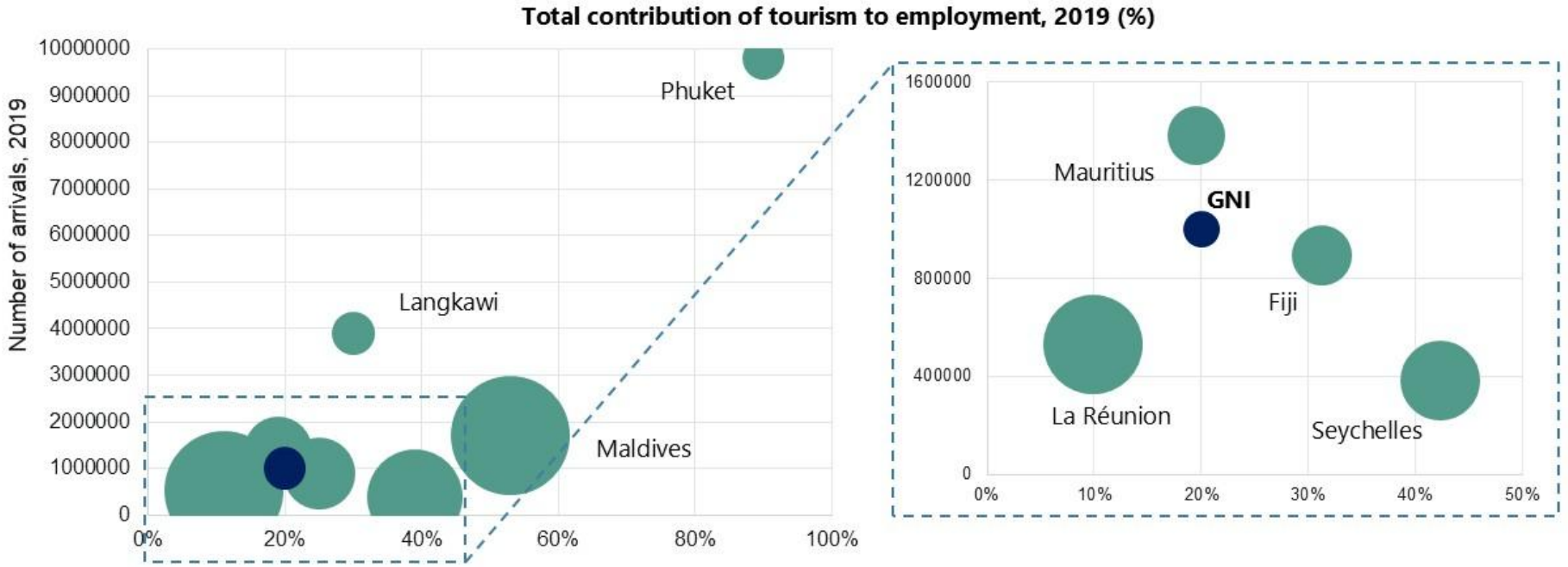
Tourism – Employment Projections



- With the current estimations, there would be **4.28 direct jobs for 100 tourists on Great Nicobar Island.** The ratio would be almost similar to those of the Seychelles islands (5.2 direct jobs / 100 tourists), higher than places like Mauritius (2.5) and lower than Maldives (7) or La Réunion (7.2).
- Direct tourism employment would **constitute approximately one-fifth of all jobs**, which is similar to destinations like Mauritius and more diversified than the levels seen in destinations like the Seychelles or Fiji Islands. It's important to exercise **caution regarding an excessive dependence on tourism jobs**, as this could leave GNI vulnerable to demand shocks such as another pandemic.

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9.2 Annexure II – Benchmarking for Finance Hub and Tourism Sector in Port cities

S No		Cities/Country	Singapore	Busan, South Korea	Dubai, UAE	Hong Kong	GIFT City, India
		Total city/country area (sq km)	**736**	**768**	**4114**	**1114**	
		Population of city/country till 2025 (in million people)	**6.11**	**3.5**	**4**	**7.5**	
1	Port	Presence	Yes	Yes	Yes	Yes	
2		Year of establishment	1964 (emerged as a free port)	1876 (2004 Busan Port Authority established)	1972	1860	
3		Area (hectares)	600 (including logistics)	1200 (including 1000 hectares of logistic hub)	13400 (including Jebel Ali Free Zone of 5700 hectares)	379 (including 100 hectares for logistics)	
4		TEUs (million) 2024	41	24.4	15.5	13.69	
5	Finance Centre/ District	Name	Central Business District (CBD), acts as a national financial capital for Singapore, as Mumbai is for India	Busan International Financial Centre (BIFC)	Dubai International Financial Centre (DIFC)	Hong Kong Financial District	GIFT City
6		Year of establishment	1980s	2014	2004	late 19th century	2011
7		Total Land Area (hectares)	300	10.2	140 (total planned area)	170	359

S No		Cities/Country	Singapore	Busan, South Korea	Dubai, UAE	Hong Kong	GIFT City, India
8		Activities	1. **Financial and banking offices** - Headquarters and regional hubs of global banks like 2. **Professional Services Firms** - Law, accounting, and consulting companies 3. **MNCs** in tech, shipping, and trading	1. **Offices for financial firms** like Securities and Futures Exchange, Korea Housing Finance Corporation, BNK Busan Bank etc. 2. **Think tank space for fintech startups**, blockchain, etc. 3. **Maritime finance**, derivatives back-offices, shipping offices and general commercial offices	1. **Commercial Offices** for banks, asset managers, and corporates 2. **Multipurpose setups** with IT support, meeting rooms, 24/7 security, and flexible terms for professionals 3. **Flexi/dedicated desks and private offices** for FinTech, AI, and innovators 4. **Management offices**, holding companies, proprietary investment offices, and representative branches for regional HQs and back-office functions. 5. **Retail and Residential**	1. **Grade A Towers**: Prestigious skyscrapers like IFC 1 & 2, Cheung Kong Center, global banks, stock exchanges, and regulators 2. **Serviced and Coworking**: Flexible spaces from The Executive Centre, WeWork, and others in buildings like AIA Central and Nexxus, ideal for startups, NGOs, and luxury brand offices 3. **Boutique Buildings**: Character-filled structures on streets like Ice House Street for discreet professional services and creative firms	1. **Global Financial, IT, and ancillary services**, including Banking Units, Insurance/ Reinsurance Firms, Stock Exchanges, Fund Managers/ Wealth Firms, IT/Fintech Companies, and Professional Services (Legal, Audit) 2. **Corporate headquarters**, back offices, research & development centers, global delivery centers, shared services, innovation centers, processing centers, and support offices. 3. **Co-working spaces and business centers** provide flexible options alongside plug-and-play infrastructure for fintech, data centers, and software development firms. 4. **Residential and supporting facilities**

S No		Cities/Country	Singapore	Busan, South Korea	Dubai, UAE	Hong Kong	GIFT City, India
9		Office Space (in sqm)	31,80,000	5,44,000	12,45,000		
10		Retail and Residential Space (in sqm)	25,00,000	2,50,000 (residential include mainly officetels (studio apartments for living/working))	12,64,000	48,00,000 (office and retail)	57,62,082 (with about 67% of built-up dedicated for office space)
11		Nature of Development	1. High-density commercial development (with global FSI of nearly 2.0) dominated by Grade A office towers, financial institutions, and integrated mixed-use complexes with offices and retail and a very minimal residential component. 2. Marina Bay Finance Centre with a land area of about 3.5 hectares and built-up area of 2,78,000 sq.m (FSI of around 8) being used for office, retail and small share of residential within the CBD area.	Mixed-use urban development (with an FSI of nearly 8.0) centered on high-rise financial offices, fintech innovation hubs, and supporting retail/residential spaces	Commercial precincts like Gate Village and Gate Precincts, retail boulevards, and luxury hotels, innovation hubs, residences, and green corridors (with a global FSI of around 1.8), emphasizing high-density, walkable design connected by metro and underground links	Extensive land reclamation from Victoria Harbour, construction of Grade A skyscrapers, and mixed-use complexes to support global finance, trade, and prestige headquarters. Developments emphasize verticality (skyscrapers over 300m with a global FSI of around 3), sustainability features, and connectivity	Mixed-use urban development, emphasizing high-density vertical construction (with FSI of 3.65), walk-to-work design, and transit-oriented development (TOD) with integrated commercial, residential, and social infrastructure.
12	Tourism	Year of Tourism data availability (historic)	1965		1991	1997	
		Annual Tourists	0.1 million		1.2 million (UAE numbers)	2.4 million	
		Intermediate Year	1991	2019	2010	2000	
		Annual Tourists	5 million	2.7 million	8.4 million	13 million	

S No		Cities/Country	Singapore	Busan, South Korea	Dubai, UAE	Hong Kong	GIFT City, India
		Current Year	2024	2024	2024	2024	
		Annual Tourists in present year	16.5 million	3 million	18.7 million	45 million	
		Tourism Drivers	1. iconic attractions (Gardens by the Bay, Marina Bay Sands) 2. a packed schedule of world-class events (concerts, F1) 3. strategic marketing (City in Nature, luxury focus) 4. excellent infrastructure (MRT) 5. a strong MICE sector 6. luxury shopping attracting diverse visitors from business to leisure, especially from neighboring Asia.	1. beautiful beaches (Haeundae, Gwangalli) 2. unique cultural spots (Gamcheon Culture Village) 3. fresh seafood, and vibrant festivals (BIFF, Rock Festival) 4. strategic marketing of K-culture 5. a smart tourism ecosystem with the Visit Busan Pass for convenience 6. cruise tourism development leveraging natural scenery with high satisfaction driven by accessibility, food, and diverse experiences.	1. iconic attractions (Burj Khalifa, desert safaris) 2. world-class infrastructure (hotels, transport) 3. diverse experiences (shopping, culture, adventure) 4. strategic global connectivity (flights) 5. government focus on economic diversification attracting visitors from key markets like India, UK, Europe, and Asia for business, leisure, and events.	1. unique East-meets-West culture, world-class shopping (especially luxury goods) 2. diverse gastronomy, iconic skyline (Victoria Harbour/Peak) 3. mega-events (MICE) 4. theme parks (Disneyland, Ocean Park) 5. natural landscapes 6. vibrant nightlife 7. efficient transport, and cruise tourism with strong recent growth from India and renewed focus on diversified source markets and experiential travel	

9.3 Annexure III – Benchmarking for Knowledge Hub

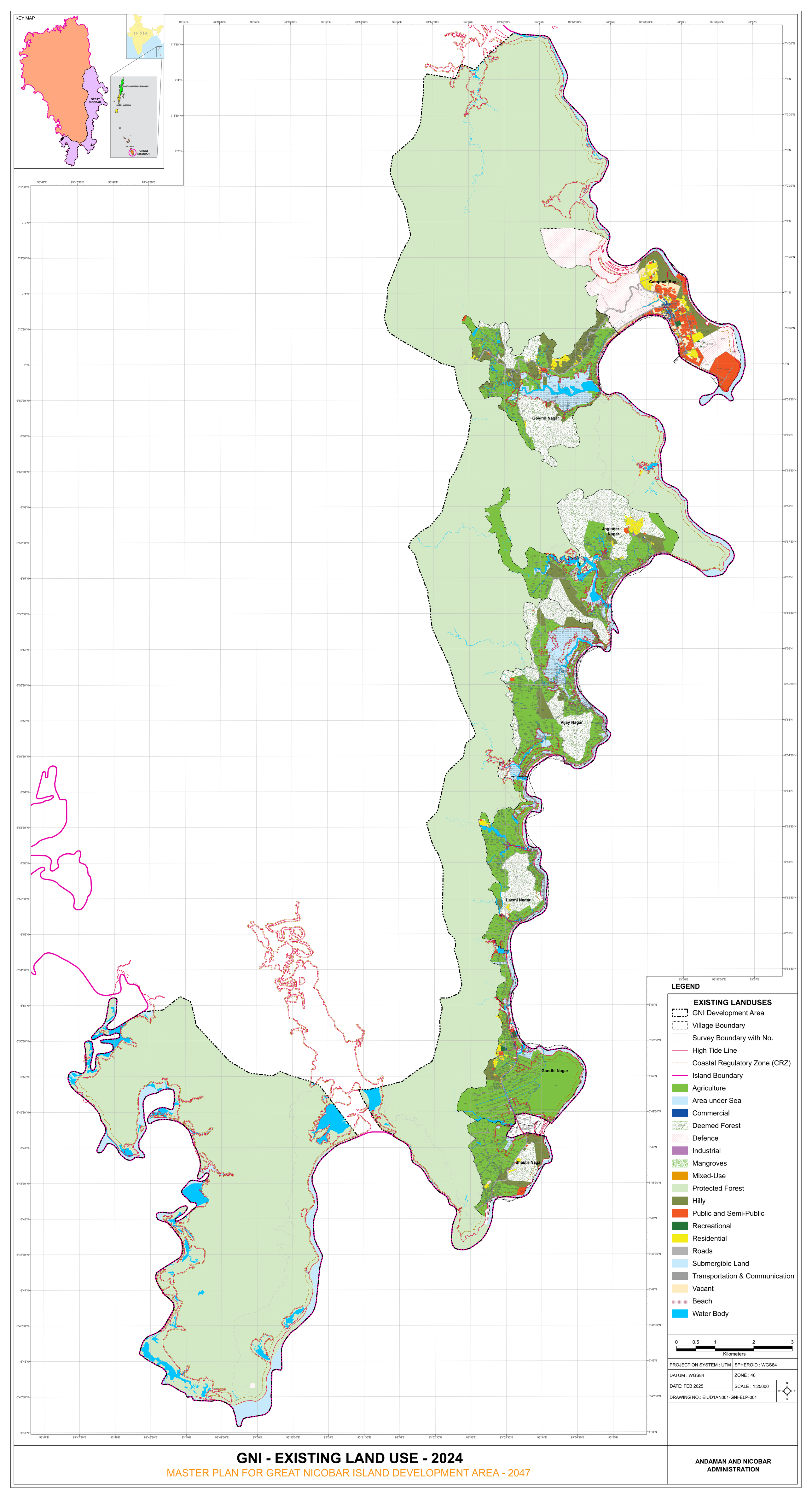
S No	Institutes	Location	Land Area (Hectares)	Number of Students/Researchers	Employees
Research Institutions					
1	National Institute of Ocean Technology	Chennai	31	237	113
2	National Institute of Oceanography	Goa	12	400	125
3	National Institute for Plant Biotechnology	Delhi	6	282	53
4	Central Institute of Fisheries Education	Mumbai	6.6	163	192
Training and Skilling institutions					
5	Indian Institute of Hotel Management	Kolkata	1.2	200	45
6	Indian Institute of Tourism and Travel Management (IITTM)	Gwalior	10.8	180	100
7	International Maritime Academy (IMA)	Chennai	8	300	100
8	Indian Institute of Hotel Management	Lucknow	2	300	50
9	Indian Maritime Institute	Six Locations - Kochi, Mumbai Port, Navi Mumbai, Chennai, Kolkata, Vizag	87	6140	318

9.4 Annexure IV – Benchmarking for Wellness Hub

Sno	Wellness Hub	Location	Total Area (hectares)	Year of establishment	Facilities	No of employees	No of annual visitors/ patients	Duration of Stay
1	COMO Shambhala estate	Bali, Indonesia	8.8	2005	specialized areas for Tibetan and Ayurvedic therapies, plus a Movement Centre for yoga, Pilates, tai chi, and meditation sessions, Vitality pools, saunas, steam rooms, thematic gardens, suites for couples	300	1000-1200 (30 rooms)	10 days
2	Kairali Ayurvedic Village	Kerala, India	26	1999	Panchkarma customized by NABH-certified doctors, massages, therapies, oil treatments, therapeutic yoga in open-air pavilions, combined with pranayama, guided meditation, Satsang Vedic discourses, and mindfulness workshops, organic farming tours, herbal garden explorations with 200+ plant species, farm-to-table vegetarian cooking demonstrations, bird watching treks, cycling paths, and Miyawaki forest afforestation activities, fostering mind-body reconnection in a chemical-free environment.	200	1000-2000 (30 villas)	14-28 days
3	Santani Wellness Resort	Kandy, Sri Lanka	46.4	2016	Wellness programs include Ayurveda treatments, detox and cleansing, yoga retreats, and relaxation therapies combining on-site pampering with education on healthy living. Guests can explore curated adventures like waterfall hikes, mountain treks, temple walks, and city tours to engage with local nature, wildlife, culture, and history.	119	3000-5000 (20 rooms)	3-5 days

Sno	Wellness Hub	Location	Total Area (hectares)	Year of establishment	Facilities	No of employees	No of annual visitors/ patients	Duration of Stay
4	Atmantan Wellness Resort	Pune, India	16.8	2016	daily activities centered on Ayurveda, yoga, fitness, and holistic therapies, typically including morning yoga sessions, meditation, and pranayama breathing exercises. Guests participate in personalized consultations with doctors for detox, weight management, or stress relief programs, followed by treatments like massages, Shirodhara, and Panchakarma.	200	3500-4000 (100 keys)	6-11 days
5	AmaTierra Retreat & Wellness Center	Costa Rica	3	2006	yoga, meditation, herbal medicine, massages, and energy therapies as core wellness activities.	100	around 2000 (10-15 rooms to accommodate 40 participants at a time)	5-7 days

9.5 Annexure V – Existing Land Use Plan

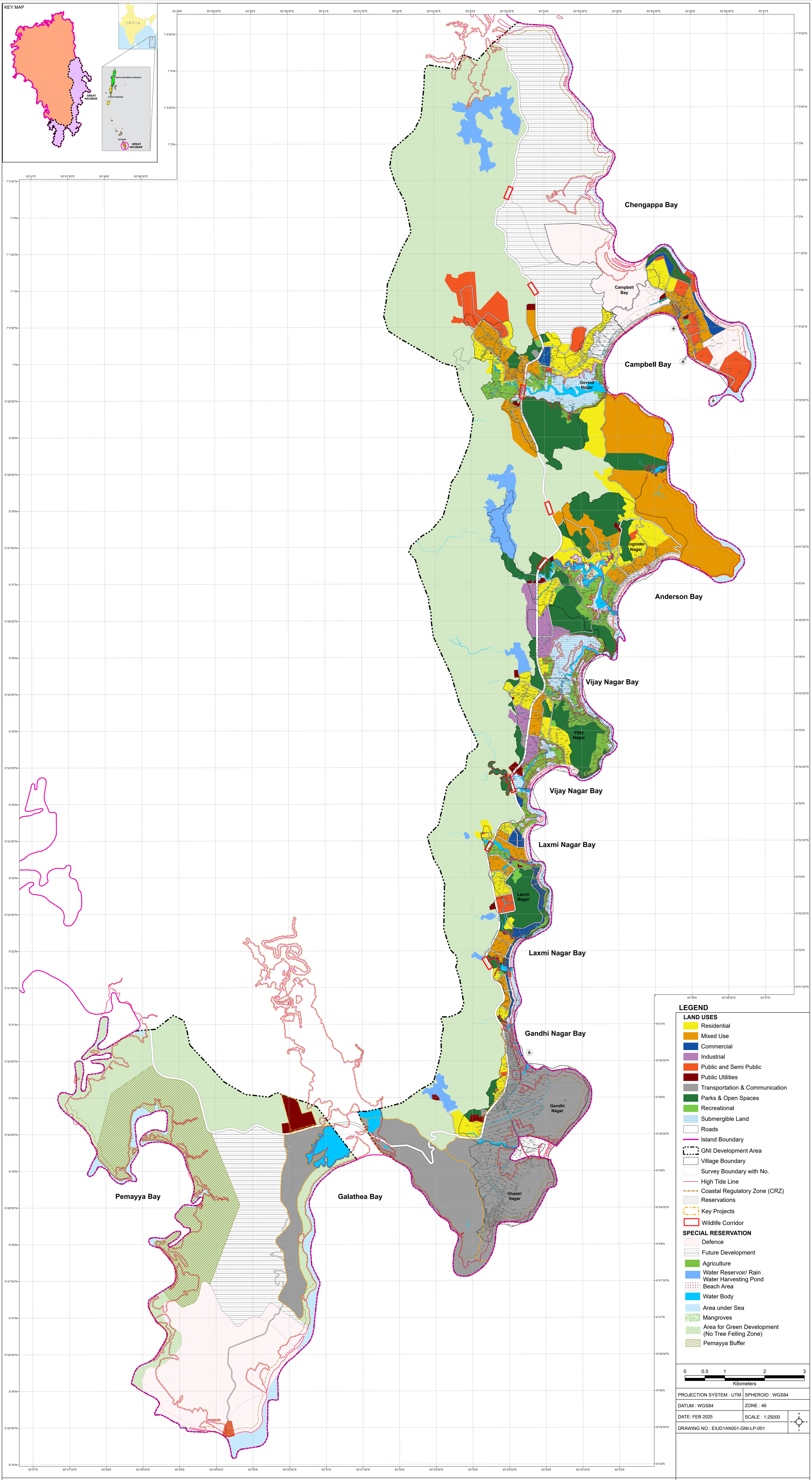


GNI - EXISTING LAND USE - 2024

MASTER PLAN FOR GREAT NICOBAR ISLAND DEVELOPMENT AREA - 2047

ANDAMAN AND NICOBAR ADMINISTRATION

9.6 Annexure VI – Proposed Land Use Plan



GNI - PROPOSED LAND USE - 2047

MASTER PLAN FOR GREAT NICOBAR ISLAND DEVELOPMENT AREA - 2047

ANDAMAN AND NICOBAR ISLANDS ADMINISTRATION