Study on Town Planning

Vashi (Navi Mumbai)

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Abstract : The project 'Study on Town Planning' delves into various levels of planning within the field of town planning. We explore the historical evolution of town planning, its role in national development, and its impact on individuals from economic and social perspectives. Specifically, we consider Vashi (Navi Mumbai) as a case study. Our objectives include analyzing the growth patterns of town planning, assessing prospects, and determining optimal execution levels. Additionally, we provide an overview of the overall impacts of town planning.

IndexTerms – **Town Planning , Land Resources , Dynamic Process , Future Development**

I. Introduction

Urban planning in India boasts a rich heritage, tracing its roots back to the meticulously planned settlements of Mohenjo-Daro and Harappa from the Indus Valley Civilization, circa 2500 BC. The Mogul era (1526-1800 AD) witnessed the expansion of capital cities, the construction of forts, and the emergence of cities designed around central avenues. The British colonial period up to the early 20th century saw urban layouts strategically designed for military and political supremacy, with a focus on public health, sanitation, spatial and social segregation, and control.

Fast forward to the last three decades, India has experienced a surge in urbanization and industrialization. With a burgeoning population of 1028 million, India stands as the world's second most populous country. Urban dwellers constitute 27.8% (285 million) of the population, a figure projected to reach 50% by 2050. However, this urban migration has exacerbated existing infrastructural challenges such as inadequate roads, water supply, sewerage, storm water networks, health and education facilities, traffic congestion, ineffective public transportation systems, unregulated growth, and environmental issues, rendering the cities vulnerable.
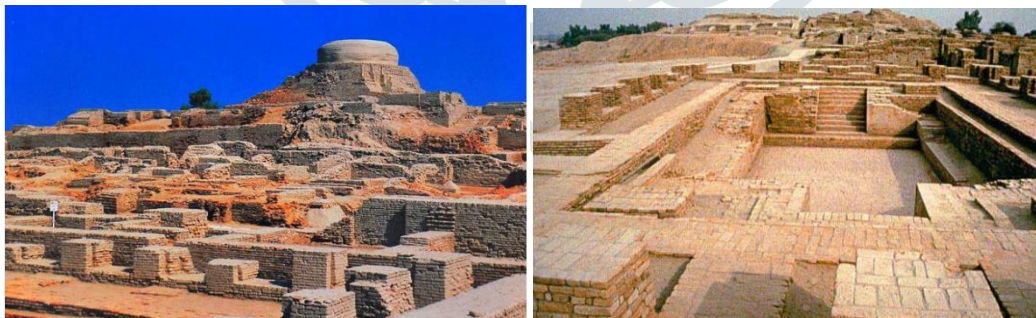

Fig .No. 1.1.Remains of Mohenjo-Daro

Land, a scarce and predominantly privately-owned resource in urban areas, poses a significant challenge. The task lies in accommodating a growing population within this limited resource without disrupting the production and supply of food and other essentials. Consequently, the design of an effective land management tool becomes a pressing need to cater to existing and future urban growth. Indian cities have adopted Development Plans (DP) as a macro-level land management tool. At the micro level, sector planning is evident in cities like Chandigarh and Navi Mumbai. States like Gujarat and Maharashtra have seen the evolution of more efficient land management tools over time, demonstrating a proactive approach towards sustainable urban growth.

II. Aim and Objective of Study

Aim of the Study: The aim of this project, "Optimize Methods of Town Planning", is to delve into the multifaceted aspects of town planning. It seeks to explore the historical evolution of town planning, its role in the socio-economic development of a country, and its impact on individual growth. The study aims to provide a comprehensive understanding of what town planning entails and how its various levels have come into existence.

Objectives of the Study:
o To study and understand the pattern of growth of town planning in the present and future.
o To analyze the future scope of town planning and determine the appropriate level at which planning should be executed.
o To present an overview of the overall impacts of town planning.
o To examine various definitions of town planning and understand it as a dynamic process that changes in response to policy, development proposals, and local needs.
o To explore the global perspective of town planning evolution in both developed and developing countries.
o To recognize the need for planning the environment with appropriate laws leading to the emergence of Urban and Regional Planning Profession.
o To note that the definition of planning as an activity will continue to vary across space, time, and situation, and as planning and designing continue to evolve in response to increasing human needs, there is significant scope for future development.

III.   Review of Literature

Soyab S Banglawalaa et.al (2021), in their work has presented the delve into the fascinating history and evolution of urban planning. The Indus Valley Civilization, thriving between 2600 BCE and 1900 BCE, was among the world's earliest urban civilizations. The cities of Mohenjo-Daro and Harappa, meticulously planned with a grid system, stand as testament to the advanced urban planning capabilities of that era. In India, town planning has been deeply ingrained in its rich culture and tradition. The Vedic period witnessed the formulation of principles for city planning. The first town planning scheme in India was prepared for a seven-acre land in Bandra, Bombay in 1915. This practice soon spread to the rest of the Bombay Presidency, encompassing parts of present-day Maharashtra and Gujarat.

In contemporary times, town planning has become an indispensable aspect of urban development. It involves the design and management of urban areas to ensure functionality, aesthetic appeal, and sustainability. Town planners strive to strike a balance between social, economic, and environmental factors while designing urban spaces. They consider various aspects such as population density, infrastructure needs, public amenities, environmental impact, and socio-economic development. This holistic approach ensures that the cities are not only livable but also sustainable in the long run. The evolution of town planning reflects the changing needs and aspirations of societies, and it continues to adapt to the emerging challenges of urbanization.[1]

Aram Eizenstat (2008), in his paper discusses the integral role of town planning in India's rich cultural history, from the Vedic period to modern times. The first town planning scheme was implemented in Bandra, Bombay in 1915, extending to the rest of the Bombay Presidency. Modern town planning focuses on creating functional, attractive, and sustainable urban spaces, balancing social, economic, and environmental factors.

Town planning has shaped our cities, improved living conditions by providing basic amenities, and preserved cultural heritage. However, Peter Hall argues that despite 25 years of planning, the main effect was to keep a high proportion of the poor, poor. This reflects struggles over concepts like citizenship and the changing structure of production. Regional planning, seemingly motivated by concern for the poor, was driven by legitimation and increased social expenditure, reflecting more intense labor exploitation. Social reform, therefore, goes beyond improved living standards and housing, requiring greater worker loyalty and initiative, and higher educational standards.[2]

Olanrewaju Samson Olaitan (2019) in his paper has found that town planning significantly influences industrial development by managing urban areas' physical, social, and economic growth. The increasing urban population and urbanization have escalated the demand for land and urban life necessities like transport and communication infrastructure. The industrial revolution in the 17th to 18th century greatly impacted town planning, with the shift from blue to white-collar jobs necessitating improved education and housing standards. This shift led to increased labor exploitation as capital per worker and labor productivity rose. Regional planning, driven by legitimation and production structure changes, organized the latest accumulation phase, reflecting the increased role of social expenditure. In summary, town planning has been pivotal in industrial development by providing essential infrastructure facilities.[3]

Prof. Anjana Vyas et.al (2003) in their paper has found that the integrated impact of town planning on the environment is a multifaceted topic involving resource efficiency, climate change mitigation, biodiversity conservation, human health, social equity, and cultural heritage. The rapid urbanization pace, according to a joint report from Cities Alliance and UNEP, presents an opportunity to build more sustainable, innovative, and equitable towns and cities. The report suggests strategies for decision-makers to stimulate inclusive economic growth and reduce poverty while maintaining sustainable consumption and production levels. Key principles for integrating the environment in urban planning include mainstreaming environmental priorities into city-level plans, incorporating green urban economy ideas, integrating greenhouse gas emissions reduction strategies, creating "green jobs", undertaking environmental rehabilitation projects, expanding energy access through greening energy supplies, and underpinning these strategies with strong political support. The report also explores practical funding mechanisms for urban environmental activities and emphasizes the need for Environmental Impact Assessment (EIA) in assessing potential environmental impacts of proposed developments.[4]

Chetan Vaidya(1984) in his paper has found that town planning, a process involving data collection, analysis, visioning, goal setting, plan formulation, implementation, and monitoring, significantly influences the physical, social, and economic aspects of a city or town. The methodologies for town planning vary based on the area's context, objectives, and resources. Common methodologies include the Town Planning Scheme, a land management technique widely used in India, especially in Gujarat and Maharashtra, which allows for equitable distribution of benefits and costs among landowners. The Master Plan, a long-term plan prepared by a local planning authority, guides the development and growth of a city or town. The Strategic Plan, a short-term plan prepared by a multidisciplinary team, focuses on the priority issues and opportunities of a city or town. However, as each area has

unique characteristics and needs, a flexible and participatory methodology that suits the local context is crucial for sustainable and inclusive development.[5]

Annapurna Shaw(2003) in her paper has found that town planning is a complex and dynamic process facing several challenges. These include a lack of coordination and integration among various agencies, sectors, government levels, and stakeholders, leading to conflicting interests and overlapping responsibilities. There is often inadequate data and information on various urban aspects, and the available data may be outdated, inconsistent, or inaccessible. Limited resources and capacity often lead to poor quality plans, implementation delays, or failure to achieve desired outcomes. Rapid urbanization and changing dynamics present both opportunities and challenges for town planning, necessitating flexibility and adaptability. Despite these challenges, they can be seen as opportunities for improvement and innovation, contributing to the creation of sustainable and inclusive urban areas.

IV.   Methodology
4.1.Overview
A planned city is any community that was carefully planned from its inception and is typically constructed on previously undeveloped land. This contrasts with settlements that evolve organically .Vashi is a planned city that is part of Navi Mumbai, a larger planned city that is adjacent to Mumbai, located in the Konkan division of Maharashtra state, on the mainland of India. Navi Mumbai is situated across two districts, Thane, and Raigad, and is part of the Mumbai Metropolitan Region (MMR).

Fig.4.1.1 : Planned City of Vashi

Vashi was planned before being constructed, as was the city of Navi Mumbai itself. The development plan for Navi Mumbai envisaged planning and development of various nodes or townships, each with a population of about 100,000 to 300,000. Vashi is one of the oldest and most developed nodes in Navi Mumbai, and has a mix of residential and commercial areas. Vashi also boasts of a thick stretch of mangroves lying alongside the Vashi creek that plays a big role in providing the crucial ecological balance.
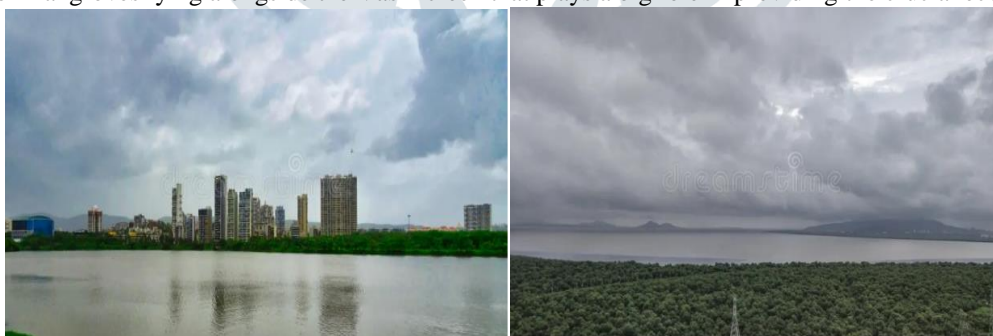

Fig.4.1.2 : Now and then images of Vashi

General statements about cities aspects .
• Vashi is a planned city that is part of Navi Mumbai, a larger planned city that is adjacent to Mumbai, located in the Konkandivision of Maharashtra state, on the mainland of India.• Vashi was planned before being constructed, as was the city of Navi Mumbai itself. The development plan for Navi Mumbai
envisaged planning and development of various nodes or townships, each with a population of about 100,000 to 300,000.Vashi is one of the oldest and most developed nodes in Navi Mumbai, and has a mix of residential and commercial areas.
• Vashi is well-connected node of Navi Mumbai. It is also the first Navi Mumbai station after Mankhurd which is the last station of Mumbai Suburban city. Vashi is a well-organized sub-urban area that houses many commercial stores and has many residentialsocieties.

Fig.4.1.3 : Vashi station

• Vashi also boasts of a thick stretch of mangroves lying alongside the Vashi creek that plays a big role in providing the crucial ecological balance.
• Vashi has many attractions for its residents and visitors, such as Inorbit Mall, Palm Beach Road, The Bikaner House, Sagar Vihar, and Bookfair

4.2. Major Aspects of The City.
Green zone and Ecosystem.
This city have the most green zone in the Mumbai .Parks and gardens are provided at the walking distance in each sector of the city , and most importantly all the provided green zones are quite a distance away from the main roads maintaining quite , peaceful & hazel free access to set of group people . Yet all the parks and green zones are easy accessible and well connected to the residential areas .
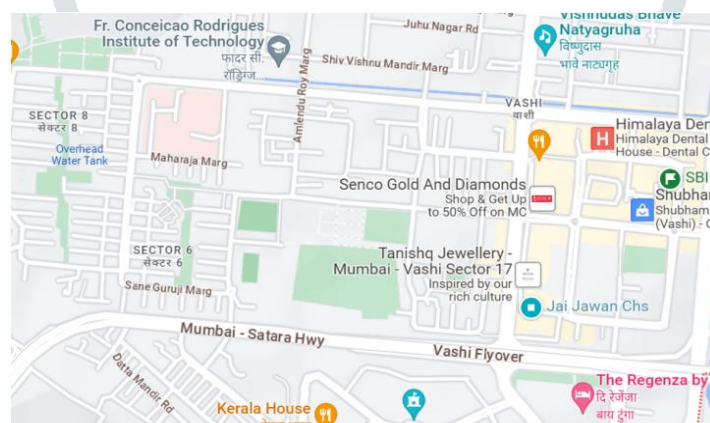

Fig.4.2.1 : Green zone in Mumbai

The Thane Creek Flamingo Sanctuary located between Vashi and Airoli. It is a 1600-hectare area that was declared a flamingo sanctuary in 2015. The sanctuary is home to thousands of pink flamingos that fly in from northwest India, Asia, and beyond during the winter months. The best time to spot flamingos in Mumbai is between October and May. The sanctuary is also home to other bird species such as pied avocets, black-headed ibis, western reef heron, common sandpiper, intermediate egrets, and plover birds. The mudflats in the area are teeming with crab life as well.

Fig.4.2.2 : Thane Creek Flamingo

Recreational areas Provided in Vashi .
1. Sagar Vihar Garden : A beautiful garden located near the sea, itis an ideal place to relax and unwind.
2. Inorbit Mall : A popular shopping mall that houses a variety ofstores, restaurants, and entertainment options.
3. Bookfair :A bookstore located in Vashi that offers a wide range of books across different genres.

4. The Bikaner House: A restaurant that serves authentic Rajasthani cuisine.

5. Ram Laxman Tower : A premium residential property located in Vashi that offers great location, comfort, and convenience. I hope this information helps. Let me know if you have any other questions.

6. The Mini Seashore: located in Rajiv Gandhi Joggers Park, Sector 10A, Vashi, Navi Mumbai . It is a waterfront park in Navi Mumbai that is popular among fitness enthusiasts who like to kick-start their day with a walk or jog . The lush greenery of the park alongside the seashore it is built next to makes this park stand out from the rest . The sunset seemingly touches the horizon at this spot, which makes it an appealing sight for visitors .

Fig.4.2.3 : Mini Seashore of Vashi

Public sectors zones [CIDCO Exhibition & Convention Centre]

Fig.4.2.4 : Public sector zone

From the above reference image we can see an good example of how public areas and structure are allotted in the city making it more hazel free following points are making this structure more effective and smartly placed :Considering the capacity of this exhibition center it may create a massive traffic congestion before or after any event, but due to its vicinity to the highway and flyovers the traffic is easily dispersed without any massive congestion for a longer time . Apart from the vicinity to road it is also at a walking distance from the Vashi railway station, and major bus stops are also provided in the minimum radius of 10m in all direction. Considering this fact the planner has smartly diverted the traffic without disturbing the harmony of nearby residential areas.

Offices and malls near railway station

Offices and malls near Vashi railway station can be beneficial in town planning perspective for several reasons. Some of them are:
• They spur revitalization of the area by attracting more businesses, customers, and residents.
• It encourage high quality design by providing both greater flexibility and more control over the architectural and aesthetic aspects of the buildings.
• They preserve and enhance the traditional village center of Vashi by promoting a village-style mix of retail, restaurants, offices, civic uses, and multi-family housing.
• They provide more housing opportunities and choices for different income groups and preferences.
• They enhance the unique identity and development potential of Vashi as a gateway to Navi Mumbai and a hub of IT and commercial activities.
• They promote pedestrian and bicycle travel by co-locating multiple destinations and reducing the need for car trips.
• They reduce traffic congestion, air pollution, and infrastructure costs by making efficient use of land and resources.
• They promote a sense of community and place by creating spaces where people can interact, socialize, and enjoy.

These are some of the benefits of mixed-use development near Vashi railway station. However, there may also be some challenges and drawbacks, such as higher construction costs, complex management issues, zoning regulations, market risks, and potential conflicts among different uses and users. Therefore, careful planning, design, and implementation are needed to ensure the success of such projects.
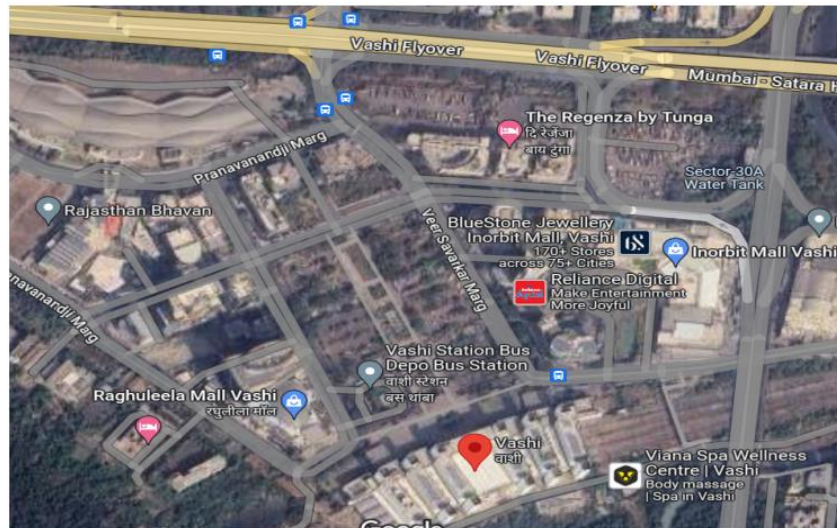
Fig.4.2.5 : Offices and malls near Vashi railway station

Other significant services:
Fire safety and public markets like APMC Some of the other significant services provided in Vashi are fire safety and public markets like APMC. These services are important in town planning perspective for the following reasons:
Fire safety is essential for protecting the lives and properties other residents and visitors of Vashi. It also helps to prevent and mitigate the risks of fire hazards and accidents that may occur due to various factors such as faulty electrical wiring, gas leakage, flammable materials, etc. Fire safety services include fire fighting equipment, fire alarm systems, fire extinguishers, fire hydrants, fire drills, fire audits, fire training, etc. These services are provided by various agencies and organizations such as Ganga
Fire Safety, Aditi Fire Safety Services LLP, Fire Fighting Equipment Dealers, etc. in Vashi.

Fig.4.2.6 : Fire safety and public markets in Vashi

Public markets like APMC are important for facilitating the trade and commerce of agricultural and other produce in Vashi. They also provide a source of income and livelihood for the farmers, traders, wholesalers, retailers, and consumers. Public markets like APMC offer a variety of products such as food grains, fruits, vegetables, spices, dry fruits, pulses, edible oil, oilseeds, etc. at competitive prices and quality. They also create infrastructural facilities for orderly development of trade such as market yards, storage facilities, transport facilities, etc. APMC is one of the largest wholesale markets in India and is located near Vashi railway station. It has six markets handling different commodities and has a daily turnover of about Rs.150 crore.
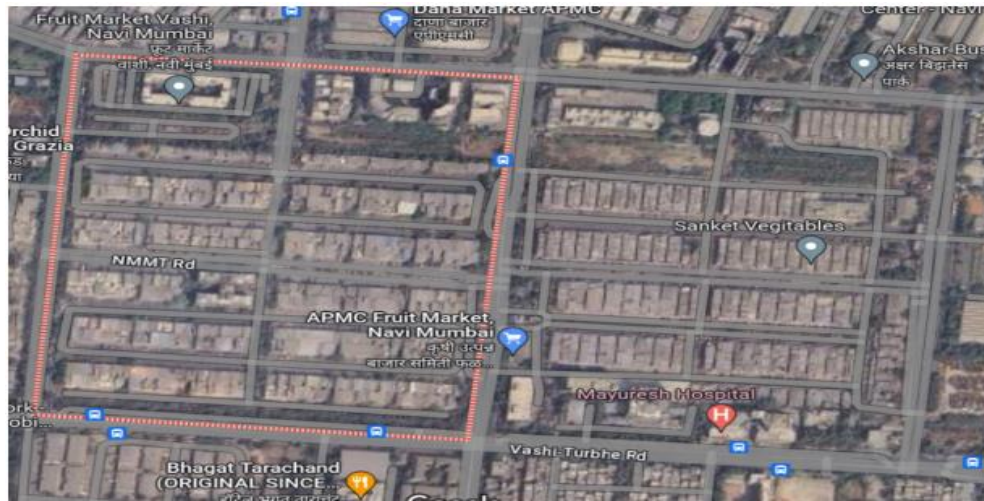
Fig.4.2.7 : Public Market [AMPC]

4.3.Road System .

The road system in Vashi, Navi Mumbai is designed to provide a smooth and efficient transport network for the residents and visitors of the area. Some of the features of the road system are:

• Grid pattern: The road system follows a grid pattern that divides the area into various nodes or townships. Each node has a population of about 100,000 to 300,000 and is further sub-divided into sectors. The grid pattern allows for easy navigation and accessibility of different locations within and outside the area.

• High interconnectivity with main road: The road system has high interconnectivity with the main road that connects Vashi with other parts of Navi Mumbai and Mumbai. The main road is the Palm Beach Road, which is a 10-kilometer-long, six-lane, access controlled, upscale, and affluent residential and commercial road that runs parallel to the Mumbai Harbor. The Palm Beach Road connects Vashi and Belapur through Sanpada, Nerul, and has good connectivity with the Mumbai-Pune Highway, the Sion Panvel Highway, the Thane-Belapur Road Highway, and the upcoming NMIA (Navi Mumbai International Airport).

• Spacious roads: The road system has spacious roads that can accommodate the increasing traffic volume and reduce

• congestion. The roads are well-maintained and have adequate lighting and signage. The roads also have safety features such as fences, speed limit signs, ramblers, etc. to prevent accidents.

• Off-road parking included: The road system has off-road parking facilities that are included in the planning and development of the area. The off-road parking facilities are available in various locations such as shopping malls, residential complexes, commercial buildings, etc. The off-road parking facilities help to reduce the parking problems and improve the aesthetics of the area.
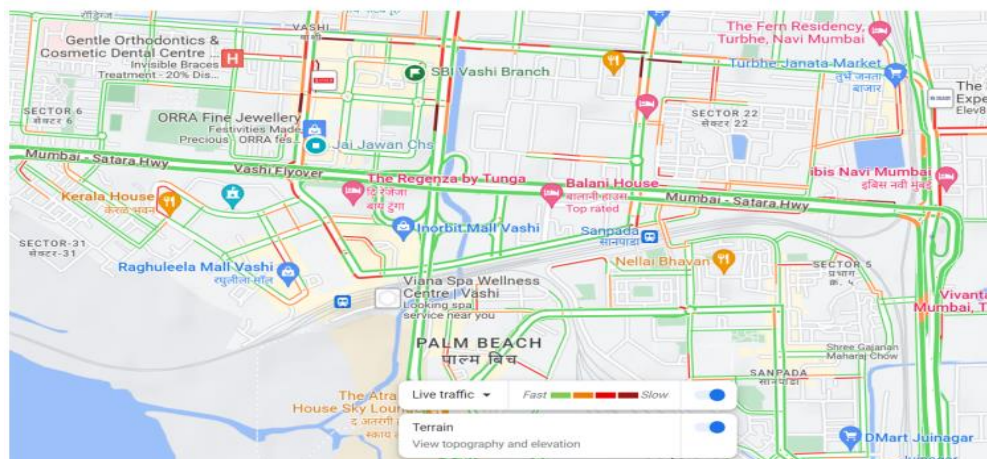

Fig.4.3.1 : Road system in Vashi

4.4.Structure of Public and Residential Buildings .

The structure of public and residential buildings in Vashi, Navi Mumbai is designed to provide a comfortable and convenient living environment for the residents and visitors of the area. Some of the features of the structure are :

Fig.4.4.1 : Symbols for environment, safety measures and utilities

• Provided with proper facilities: The public and residential buildings in Vashi are equipped with various facilities such as water supply, electricity, drainage, sanitation, security, parking. that ensure a smooth and hassle-free living experience. The buildings also have amenities such as gymnasium, swimming pool, clubhouse, garden, etc. that enhance the quality of life and well-being of the occupants.

• All safety measures considered: The public and residential buildings in Vashi are constructed with high-quality materials and techniques that ensure durability and safety. The buildings also comply with the fire safety norms and regulations and have firefighting equipment, fire alarm systems, fire extinguishers, fire hydrants, etc. installed in them. The buildings also have earthquake-resistant features and are designed to withstand natural calamities.

• Functional and well maintained emergency utilities: The public and residential buildings in Vashi have functional and well maintained emergency utilities such as generators, inverters, solar panels, etc. that provide backup power in case of power failure or outage. The buildings also have emergency exits, staircases, elevators, etc. that facilitate easy evacuation and rescue in case of emergency situations.

• Area wise vicinity: The public and residential buildings in Vashi are located in strategic areas that offer a good vicinity and accessibility to various facilities and services such as educational institutions, hospitals, shopping malls, restaurants, parks, recreational centers, etc. The buildings are also well connected with other parts of Navi Mumbai and Mumbai through efficient transport networks such as roads, railways, buses, autos, etc.

• Easy accessibility: The public and residential buildings in Vashi are easily accessible by the residents and visitors of the area. The buildings have proper signage and directions that guide the users to their desired destinations. The buildings also have ramps, lifts, wheelchairs, etc. that enable the mobility and accessibility of differently abled people. These are some of the features of the structure of public and residential buildings in Vashi, Navi Mumbai. By providing a modern and comfortable living environment, the buildings contribute to the development and growth of the area.

4.5.Preservation of older settlement [Vashi Gao]

The preservation of older settlement [Vashi Gao] while developing the planned Vashi city is a challenging but important task. Vashi Gao, also known as Vashi Village, is one of the oldest and original settlements in Navi Mumbai. It is located in Sector 29, near the Vashi Creek, and has a population of about 10,000 people. Vashi Gao has a rich history and culture, as well as a unique natural environment. It is home to several temples, mosques, churches, schools, and community centers that reflect the diversity and harmony of its residents. It also has a thick stretch of mangroves that provide ecological balance and protection from floods.

Fig.4.5.1 : Vashi Gao

However, Vashi Gao also faces many problems and threats due to the rapid urbanization and development of the surrounding areas. Some of these are:

• Loss of identity and heritage: Vashi Gao is losing its distinct character and charm as it is overshadowed by the modern and high-rise buildings of Vashi city. The traditional architecture, art, and crafts of the village are being replaced by concrete structures and generic designs. The cultural and religious practices of the villagers are also being diluted by the influence of urban lifestyles and values.

• Lack of infrastructure and services: Vashi Gao lacks adequate infrastructure and services such as roads, drainage, water supply, sanitation, electricity, health care, education, etc. The villagers have to face many hardships and inconveniences due to the poor-quality of life and lack of basic amenities. The village also suffers from environmental degradation and pollution due to the dumping of waste and sewage from the nearby areas.

• Land acquisition and displacement: Vashi Gao is under constant pressure from the developers and authorities who want to acquire its land for various projects and purposes. The villagers have to face the risk of losing their homes, livelihoods, and rights due tothe forcible or unfair acquisition of their land. The villagers also have to deal with the legal and administrative hurdles andharassment that come with the land acquisition process. Therefore, it is essential to preserve Vashi Gao while developing theplanned Vashi city. This can be done by adopting some measures such as:• Recognizing and respecting the rights and interests of the villagers: The villagers should be given a voice and a say in the

planning and development process that affects their lives. They should be consulted and involved in the decision-making andimplementation of any project or policy that impacts their land, resources, culture, or environment. They should also becompensated fairly and adequately for any loss or damage caused by the development activities.

• Promoting and supporting the conservation and enhancement of the village: The village should be recognized as a heritage sitethat has historical, cultural, and ecological significance. The village should be protected from any encroachment or destructionthat may harm its integrity or identity. The village should also be supported to improve its infrastructure and services that canenhance its quality of life and attractiveness. The village should also be encouraged to showcase its art, craft, cuisine, festivals,etc. that can attract tourists and visitors.

• Integrating and harmonizing the village with the city: The village should not be isolated or alienated from the city, but ratherintegrated and harmonized with it. The village should be connected with the city through efficient transport networks thatcan facilitate mobility and accessibility. The village should also benefit from the city's resources and opportunities that canprovide employment, education, health care, etc. The village should also contribute to the city's development by sharing itsknowledge, skills, products, etc. These are some of the ways to preserve Vashi Gao while developing the planned Vashi city. By doing so, both the village and the city can coexist peacefully and prosperously.

4.6. New settlement on the outer skirt of city [Palm Beach Road]

The new settlement of Palm Beach at Vashi is a part of the planned city of Navi Mumbai, which is divided into various nodes or townships. Each node has a population of about 100,000 to 300,000 and is further sub-divided into sectors. The Palm Beach Road connects Vashi and Belapur through Nerul and Sanpada, and is a 10-kilometer-long, sixlane, access-controlled, upscale, and wealthy residential and commercial road that runs parallel to the Mumbai Harbor. Some of the features of the new settlement are:

Fig.4.6.1 : Palm Beach [Planned City]

Roads / Connectivity: The Palm Beach Road is about 20 kms from the upcoming NMIA (Navi Mumbai International Airport) and 3kms from the Vashi Railway Station. It also has good connectivity with other parts of Navi Mumbai and Mumbai through the Mumbai-Pune Highway, the Sion-Panvel Highway, the Thane-Belapur Road Highway, and the Palm Beach Road.

The area also has a proposed arm bridge from Vashi's sector 17to connect the Sion- Panvel highway and a proposed 655 m-long road for improved connectivity with Nerul jetty.

Township Planning: The new settlement of Palm Beach at Vashi is designed to offer a contemporary lifestyle to its residents. It has a mix of quality residential and commercial complexes that cater to different needs and preferences. Some of the high-profile developments that will turn Palm Beach Road, Vashi into a premium and sought-after residential area are Sunny Build tech Orchid Arcade, Tricity Realty LLP, Shah Signature, Vishrut Construction Barcelona, and Palm Beach Residency. Some of the most notable real estate developments and multistory residences with stunning views can be found in this residential region. The area also has some unique projects such as the Multiplex and Family Entertainment Complex, International Exhibition Centre, Amusement Park, Golf Course, International IT Hardware Park , etc. that are expected to put Navi Mumbai on the world map.

Services Provided: The new settlement of Palm Beach at Vashi has several marketplaces and retail establishments to meet the needs of the locals. Some of the shopping malls in the area are Indraprastha Shopping Complex, Vashi Central, Inorbit Mall Vashi, Max Fashion, Palm Beach Galleria Mall, etc. The area also has many educational institutions, hospitals, restaurants, parks, and recreational centers that provide a range of options for the residents to enjoy their leisure time and enhance their quality of life.

Some of the landmarks in the area are INOX Cinemas (Palm Beach Galleria Mall), AMPC Market 2, Tea Villa Cafe, Vashi Fuel Center,Delhi Public School, Palm Beach Hospital and Diagnostic Center, Welcome Super Market, Central One, Poddar School, Dr. R.N. Patil's Suraj Neurological Hospital, etc. The area also has some service providers such as Libra International Services that offer civil constructions service, construction material testing services, industrial fabrication service, visa assistance service ,ticket assistance service, medical checkup service etc.

Fig.4.6.2 : Palm Beach road

4.7.Impact and Experience on Lifestyle of a Resident.
Lifestyle of a resident in Vashi, Navi Mumbai can be impacted and experienced in various ways. Some of the possible aspects are:
• Vashi is a well-planned locality that offers a contemporary lifestyle to its residents. It has a mix of quality residential and commercial complexes that cater to different needs and preferences.
• Vashi is conveniently located along the Mumbai-Pune Highway and has good connectivity with other parts of Navi Mumbai and Mumbai. It also has a railway station that connects it with the suburban rail network. This makes it easy for the residents to commute and access various facilities and services.
• Vashi has a reputation for being a good place to live, while maintaining access to the city across the creek. It is self-sufficient in many regards, and has its own thriving atmosphere for residents, shoppers and fun-seekers.
• Vashi has many educational institutions, hospitals, shopping malls, restaurants, parks, and recreational centers that provide arrange options for the residents to enjoy their leisure time and enhance their quality of life.
• Vashi also has some challenges and drawbacks, such as high air pollution due to proximity to MIDC Industrial Area, traffic congestion during peak hours, and rising property prices due to high demand. Overall, lifestyle of a resident in Vashi can be influenced by various factors such as location, infrastructure, amenities, environment, and affordability. Each resident may have a different experience and perspective depending on their personal preferences and expectations.

Fig.4.7.1 : Vashi , Navi Mumbai

V.　　Result and Discussion
Results
　　Town Planning and Industrial Development: Town planning significantly influences industrial development by managing urban areas' physical, social, and economic growth. The increasing urban population and urbanization have escalated the demand for land and urban life necessities like transport and communication infrastructure.
　　Town Planning and Environment: The integrated impact of town planning on the environment is a multifaceted topic involving resource efficiency, climate change mitigation, biodiversity conservation, human health, social equity, and cultural heritage.
　　Town Planning Methodologies: The methodologies for town planning vary based on the area's context, objectives, and resources. Common methodologies include the Town Planning Scheme, a land management technique widely used in India, especially in Gujarat and Maharashtra, which allows for equitable distribution of benefits and costs among landowners.

Challenges in Town Planning: Town planning is a complex and dynamic process facing several challenges. These include a lack of coordination and integration among various agencies, sectors, government levels, and stakeholders, leading to conflicting interests and overlapping responsibilities.

Case Study - Vashi, Navi Mumbai: Vashi, a planned city part of Navi Mumbai, was carefully planned and constructed on previously undeveloped land. It is one of the oldest and most developed nodes in Navi Mumbai, with a mix of residential and commercial areas. Vashi is well-connected and houses many commercial stores and residential societies.

Discussion:

The results highlight the significant role of town planning in shaping industrial development, environmental sustainability, and urban growth. The case study of Vashi, Navi Mumbai, provides a practical example of successful town planning, demonstrating how careful planning and construction can lead to a well-connected, residential, and commercial hub.

However, the challenges identified in the results underscore the complexities involved in town planning. These challenges, such as lack of coordination and integration, inadequate data, limited resources, and rapid urbanization, need to be addressed effectively to ensure sustainable and inclusive urban development.

The methodologies for town planning, such as the Town Planning Scheme and Master Plan, offer potential solutions to these challenges. However, as each area has unique characteristics and needs, a flexible and participatory methodology that suits the local context is crucial.

In conclusion, town planning plays a crucial role in shaping the future of urban areas. By addressing the challenges and leveraging the opportunities, town planning can contribute significantly to creating sustainable and inclusive urban areas. Further research could explore innovative methodologies and strategies to overcome the challenges in town planning.

VI. Conclusion

In conclusion, town planning plays a pivotal role in shaping the physical, social, and economic aspects of urban areas. It significantly influences industrial development and environmental sustainability. However, it is a complex and dynamic process that faces several challenges, including lack of coordination, inadequate data, limited resources, and rapid urbanization. The case study of Vashi, a planned city part of Navi Mumbai, demonstrates successful town planning, creating a well-connected, residential, and commercial hub. Addressing these challenges and leveraging opportunities can lead to sustainable and inclusive urban development. Therefore, town planning is crucial for the future of urban areas, and further research could explore innovative methodologies and strategies to overcome the challenges in town planning.

VII. Future Scope

- Advanced Town Planning Methodologies: With the advent of technology, new methodologies and tools are emerging that can aid in town planning. Future work could investigate the application of technologies like Geographic Information Systems (GIS), Artificial Intelligence (AI), and Machine Learning (ML) in town planning.

- Sustainable Urban Development: As sustainability becomes a global priority, there is a growing need to incorporate sustainable practices in town planning. Future research could focus on developing strategies for sustainable urban development, such as green buildings, renewable energy sources, and waste management systems.

- Impact of Climate Change on Town Planning: Climate change is a pressing issue that is likely to impact all aspects of life, including town planning. Future work could examine how climate change might affect town planning and what measures can be taken to mitigate these effects.

- Public Participation in Town Planning: Public participation can play a crucial role in making town planning more inclusive and effective. Future research could explore strategies for enhancing public participation in town planning.

- Case Studies: Conducting case studies on different cities around the world can provide valuable insights into the challenges and best practices in town planning. Future work could involve conducting such case studies and comparing the town planning strategies used in different regions.

- Policy and Regulation: Future research could also focus on the policy and regulatory aspects of town planning. This could include studying the impact of existing policies and regulations on town planning and proposing new ones to address current challenges.

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