

THE CULTURAL AND SOCIO-ECONOMIC IMPACT OF BROWNFIELD DEVELOPMENT IN NEIGHBOURHOOD

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ABSTRACT

India is dealing with a land shortage problem in order to meet the needs of its citizens. What will India do to address the problem and improve labour conditions? At the moment when the British empire had total control of India. They brought and established a slew of companies and railway stations, as well as a slew of urban districts. When their criteria were met, manufacturing plants and businesses were closed and relinquished for an extended period of time. In 1991, India was hit by an economic downturn, and many businesses were forced to close for a period of time. The entire nation is facing COVID-19 in the twenty-first century, and several small manufacturing lines and businesses have suffered losses as a result of the lockdown. As a result of the crisis, there has been a rise in venture disappointment and company disasters. From the beginning of time, industrial facilities have been closed and abandoned. Every barren structure and abandoned location is labelled "Brownfield." The Brownfield development and its contents are examined in this study. The paper's main focus is on how Brownfield development affects the ecology in specific areas or neighbourhoods. To learn more about Ranchi's Brownfield development. Because it has a great deal of promise and a bright future in the modern world. The purpose of the study is to understand the district's capabilities, the effects of Brownfield development on neighbourhood environmental variables, and the condition after Brownfield development. The focus of the investigation is on the cultural and socioeconomic changes that occur following the development of the relinquished contemporary territory, as well as the long-term fate of Brownfield development in Ranchi. Consider the case model and contrast both the contextual analysis of Mumbai and Ahmadabad for a better understanding of the consequences of Brownfield development. A well-planned development enhances living conditions in nearby areas while also increasing the social, economic, and cultural aspects of the sites as well as their environmental considerations.

KEYWORDS – Brownfield Development, Surrounding, Neighbour, Industries, Socio-Economic, Culture, Ranchi, Abandoned, Future, Brownfield.

1. INTRODUCTION

The environmental protection agency (EPA-us) created the term "brownfield" in 2002. Brownfield sites are "abandoned, idled, or underutilised industrial and commercial facilities whose growth or redevelopment is hampered by actual or imagined contamination" (R.P, 2006). Brownfield development is frequently carried out successfully with a thorough awareness of all relevant factors, such as financial concerns about the land, notable natural behaviour, issues and concerns about general health, and land use regulations (SMITH,

2008). Brownfield sites are underused land divisions that are frequently found within the city area and on the outskirts of towns in national domains.

There are times when a whole town is surrendered due to a variety of factors. The most likely utilitarian element of the sites is presented by urban morphology; nevertheless, using the most basic approach available at the time, a comparable land bundle ends up being scarcely prepared for ground-breaking future use.

Such land groupings are expected to become Brownfield during the course of urban redevelopment, reducing the need for new land for future constructions. Recognizing and conserving such prospective Brownfield necessitates a thorough understanding of their features and qualities.(RAVINDRA, 2018). Brownfield sites are underutilised land divisions that may be found both in urban areas and on the outskirts of towns in rural regions. There are times when an entire town is abandoned for various reasons. Urban morphology presents the then likely utilitarian a part of the very sites; in any case, with the right way of your time, an identical land package seems to be scarcely equipped for powerful further utilization. Such land bundles are likely to become Brownfield during urban redevelopment, reducing the demand for virgin land for future constructions. Recognizing and conserving such prospective Brownfield's necessitates a thorough understanding of the properties and characteristics of such property parcels.(RAVINDRA, 2018). Brownfield locations have the following features (STEINBRENNER, 2016): Previously used industrial or manufacturing land currently decommissioned, dormant, or underutilised; a cityscape; Contamination of the environment, whether real or imagined, as well as contamination as a result of previous use.

2. BROWNFIELD IN INDIA

During the period 1850-1900, several businesses were established in India because to its vast asset potential. The British presented railways for freight transport, which accelerated the growth of such modern and frontier communities. Several railroad towns were established. For a long time, the increasing rate of in-transients into such places resulted in high densities, traffic jams, unsanitary conditions, a lack of administration, and other problems, resulting in the metropolitan plague. "Would India, as an agricultural ten country, be able to stomach relinquishing massive bundles of potential Brownfield?" - The debate that erupted in the early years after independence sparked interest in redevelopment regulations and standards. Because of the complexity and degree of the social and physical framework at the time, the Indian government began designing and implementing metropolitan restoration and metropolitan renewal approaches that might meet the demands in the not-too-distant future. The administrations of Delhi, Bombay, and Kolkata took early steps toward rebuilding and are poised to become examples for the rest of India. Various

reestablishment projects have been launched in various areas. The Jawaharlal Nehru public metropolitan recharging mission (JNNURM) made a significant advance for metropolitan reestablishment in India in 2005, with the goal of incorporated development; it aimed at targets such as the provision of fundamental administrations to the metropolitan poor, as well as ensuring the security of residency at reasonable costs, and the refinement of physical founts. The mission also suggested providing legal training, health care, and government-sponsored retirement for the city's impoverished. However, all redevelopment techniques used in both large-scale and small-scale projects in India were planned and carried out using the winning metropolitan arranging standards and rules, with a primary focus on land use, upgrading the social and physical infrastructure to meet future needs, and a secondary focus on redevelopment techniques. (MINISTER OF URBAN DEVELOPMENT 2011). Brownfield development in India is defined as "the conduct of redevelopment processes in certain underused bundles that are often handled under the administrative framework of metropolitan organising." Any reestablishment and rejuvenation programmes executed in any underutilised packages can be considered Brownfield development actuates if they are completed with due consideration of boundaries, such as comprehensive development, land use quality, request-driven proposition, future interest, and so on. Certain techniques, such as pre-identification of likely Brownfield sites, site explicitly specialised investigation, logical remediation strategies, proposing a suitable and viable utilitarian angle after the treatment, and so on, will have the ability to provide foreseen results with the enhancement of climate and environmental factors from that point. Brownfield management that is efficient and rational will result in economic regeneration. RAVINDRA (RAVINDRA, 2018)

3. CASE STUDY

3.1 REUSING LANDS OF TEXTILE MILLS UNDER CLEARANCE IN AHMADABAD CITY

The journey located in the zone in Ahmadabad has been defined and developed along the BRTS and part of the MRTS route in the development plan for 2021. The total area of the zone beneath TOZ is almost 4300 hectares. The renovation plan outlines a few components to help control sprawl by promoting a compact city layout with greater densities in areas with good open transportation access. The transit-oriented zone is defined as the first 200 metres of this BRTS corridor (measured from the street centreline), and all plots within this zone qualify for 4.0 FSI. To move away from urban sprawl and vehicle dependency, pedestrian and travel-oriented development (TOD), in which private and public spaces are organised around open transportation, bicycle systems, and person-on-foot offices, is critical. The design of contemporary structures and open spaces, the modification and construction of modern progression control directions, and the removal of other administrative impediments are all essential in creating an environment that better meets the inhabitants' day-to-day requirements. (2020, PATEL).



Figure 1 TOZ LOCAL AREA PLAN OF AHMADABAD

In October 1992, Prof. Bajor e. Mehta organised a report on urban revival through property redevelopment – reusing terrains of material plants under clearance in Ahmadabad city with the help of the Gujarat establishment for advancement choices and Gandhi work organisation in October 1992 for the general advancement of the city. A public-private partnership was mentioned as a feasible structure in this study on land redevelopment. This may generate enough assets to meet the needs of not just specialists and banks, but also provide job opportunities. 15 factories were identified for renovation in this research, all of which have been given official approval. These 15 units have total liabilities of about

Rs. 155.18 crore. A large holding is being divided into smaller pieces for redevelopment. According to the findings, 398 and 193 plots for mechanical and commercial reasons, respectively, may be constructed. From 15 closed factories, 86 hectares of land will be produced. This cycle will pay for itself, and as a result, over 50000 jobs might be created in 12 desirable downtown locations. Based on their physical area, these 15 plants were divided into four groups. As a result, contemporary and business land uses have been given. New roadways or little missing links were frequently proposed to improve access to the region. This report contains excellent factual information about the financial aspects of the endeavour. The purpose of the study was to try to provide as many opportunities for labour as possible, but land allotment for streets and other administrations was limited. The amount of land set aside for public open spaces, in particular, was insufficient. The land-use component was based on a chance meeting. It was not supported by any factual or logical evidence. This report was for 15 material factories that had been cleared by the government. When the study is completed, the number of factories under clearance will have nearly doubled, to 28. The projected land-use plan might be drastically altered as a result of the reduction in the number of closed factories. (2001, E.MEHTA)

3.2 CASE OF MUMBAI

In Mumbai, land is the most important requirement for any kind of development, and the introduction of manufacturing lands has largely exposed this issue. The recurring pattern of e-sale off has brought clarity to the bartering cycle and has put a stop to any acts of negligence. The real advancement measure is a tedious procedure that necessitates time and work in order for the approvals to be granted. Furthermore, it should be noted that there is no provision in the DCR 58 for social comforts and foundation development for the development of manufacturing lands, which is a major problem given the land's flexibility. The courts appear to have coordinated the conversation on Mumbai's advancement in the last decade, which has seen rapid building of towering skyscrapers in the heart of Mumbai's c.b.d. The NTC industries and other unique plants in Mumbai own almost 600 sections of prime mechanical domain in the heart of the city. Although the majority of the property in these regions is going through varying stages of reconstruction, it is being aided by

speculation from major land groups around the world. In 1996, the Charles Correa advisory group drew up a detailed plan for improving central Mumbai's manufacturing land, recommending a dynamic mix of land uses. In 1991, Segment 58 was issued, stating that the land-use may be altered, and the property was awarded an ATAN FSI of 1.33, with 1/3 going to modest lodging and 1/3 to the municipal authorities for pleasures and open spaces. The remaining 1/3 goes to the owner, with the option to use the property that the city has given up. (R.NALLATHIGA,2010)

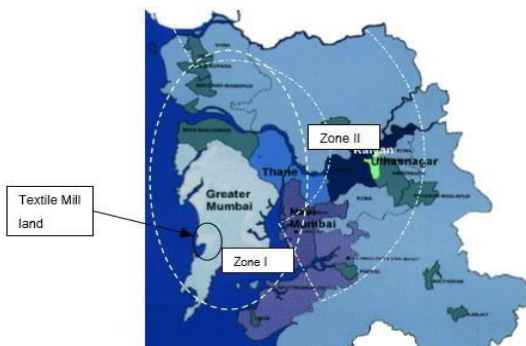


Figure 2 INDUSTRIAL LOCATION ZONING

4. COMPARISON BETWEEN AHMEDABAD AND MUMBAI CASES.

Parameters	Ahmedabad	Mumbai
Role of authority	Possession of land	Possession of land
Category of land	80% of the developers and rest 20% to the a.m.c.	1/3 for public amenities. 1/3 for developers 1/3 for mahda

Land use	Commercial, low-cost housing, INSTITUTION, ETC	Commercial, residential areas
Far allowed	Varies with areas	Around 5
Provision in development plan	For ews housing, institution, commercial space	Housing for all the mill workers, ews housing, public spaces
Seleable land	BIFR guidelines	BIFR guidelines
Clearance	BIFR guidelines	BIFR guidelines

5. POTENTIAL OF RANCHI FOR BROWNFIELD DEVELOPMENT

Ranchi, with a population of 14.6 lakh, is a smart city. Ranchi municipality covers 652.02 square kilometres, with a total area of 1295 square kilometres. Ranchi is one of India's main industrial towns, and it is situated in the region known as the "Ruhr of India" (Chota Nagpur), which makes it a perfect location for mineral-based businesses. In the area of Ranchi, there are several well-known government and commercial enterprises. The prominent industries here include Sail-r&d, macon.ltd, garden reach shipbuilders & engineers (marine diesel engine project), central coalfields, camp.ltd, Suvarna Rekha hydel project (JSEB), Usha martin.ltd (wire rope division), DVC, stpi-Ranchi, heavy engineering corp., palriwal industries, pensol India, waxpol industries, Jharkhand mega food park The Federation of the Jharkhand Chamber of Commerce and Industries (FJCCI), ASSOCHAM, MSME-di, and JIADA are some of the prominent industry organisations in the state. Many industrial regions in Ranchi, such as kokar, tatisilwai, namkum, and others, make up Jiada. (THE YEAR 2020 IN INDIA)



Figure 3 : RANCHI MAP

Ranchi has a thriving industrial base, which has accelerated the state's industrialization and given it a techno-industrial character. In Ranchi, why is Brownfield development necessary? According to CNT-ACT, unorganized development, insufficient affordable housing in the city, and locals or anybody migrating to the city is unable to purchase property from tribal/SC/ST (Choxta Nagpur tenancy act). In this age of urbanization, industry, and modernization, it is important to remember to maintain and safeguard the environment. Ranchi has to grow in a way that is both sustainable and environmentally benign. (GOVT., 2017)

5.1 RANCHI EXISTING MASTERPLAN 2011

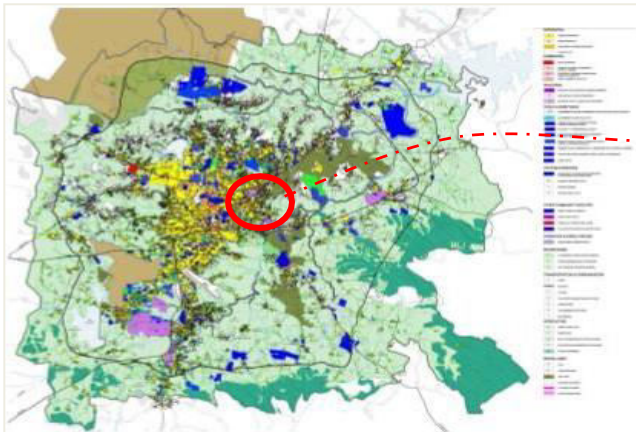


FIG: EXISTING MASTERPLAN 2011

The chore area is depicted in the centre of the map, with land uses of residential, commercial, industrial, and public/semi-public. Ranchi has a population of 14.6 lakh people and a land area of 652.02 square kilometers, according to the master plan of 2011. A few factories were placed on the

outskirts of cities, but no buffer zone was established around them. Not only do they separate land usage, but they also segregate societies. The majority of the population relies on the public/semi-public sector, which means there are few opportunities for work and lifestyle advancement. Many residential areas are haphazardly constructed and disorganized. The pace of employment and development is only maximized in the city's centre. The lack of buffers and segregation in the city centre produced a significant congestion area that resulted in excessive traffic due to public/semi-public, commercial, and industrial districts.

The influence of industry centered on the core portion of civilizations and cultures is significant. The industries first lighted-up the city's lifestyle, but as time passed, the industries' production decreased and the pollution rate rose. As a result, people's healthy lifestyles deteriorate. The administration passed a vision plan for 2037 to improve the situation.

5.2 RANCHI VISION MASTERPLAN 2037

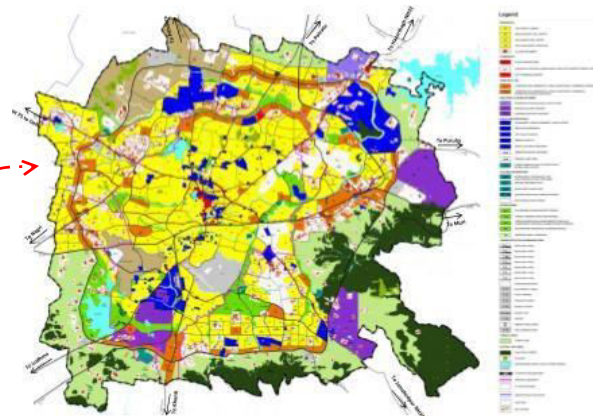


Figure 4 MASTERPLAN 2037 RANCHI, SOURCE: GOVT. OF JHARKHAND

There is no buffer near the industries under the current plan. They did, however, include a buffer zone in the vision plan. The major motivation for transferring industries from the city centre to the outskirts was to improve the quality of the environment and people's social and healthy lives. The planners offer housing for employees who work in nearby industries by constructing a

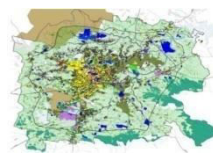
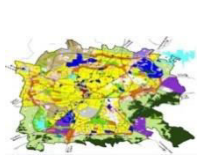
buffer zone so that companies do not have an impact on healthy society. People's wages are now not only reliant on the public/semipublic sector, but also on the commercial, institutional, and industrial sectors, as a result of moving and increasing factories/industries.

The vision master plan 2037 Ranchi has a predicted population of 3157636 people and demand of 41,337 square kilometers. The amount of floor space allowed varies based on the width of the road. The employment rate is rising, and it now encompasses not just the city's core central region, but also the whole Ranchi metropolitan area. In master plan 2037 Ranchi, the designers also offer land-use for educational and health facilities as the lifestyle scale rises. To keep the balance of land use reliance on one another. To control traffic and minimize social segregation. planners separate the land use of all sectors COMMERCIAL inner and also offer recreational space near each residential-commercial sector.

SOCIAL RESIDENTIAL
RECREATION ECONOMICAL CULTURAL

The present plan's central industrial area will be converted to commercial usage. A high population residence is given in the vision plan in such a way that it is close to the business. They also proposed inexpensive homes in between residential areas, as well as recreational opportunities for social contact.

5.3 COMPARISON ANALYSIS FOR RANCHI DEVELOPMENT MAP

PARAMETER	MASTER PLAN 2011 (EXISTING)	MASTER PLAN 2037 (VISION)
MAP		

LANDUSE	Residential, commercial, public/semi-public, industrial	Residential, commercial, public/semipublic, industrial, mixed-use, recreational
PERMISSIBLE FLOORS	G+3	VARIES
AREA	652.02 sq, km	41337 sq, km
POPULATION	1460000	3157636
IMPACT ON SOCIAL ECONOMIC	<ul style="list-style-type: none"> • Employment base on the public sector only. • Development only concentrated on the center of the city • No social interaction spaces. • The cluster of the commercial, industrial, and public sectors is in the same area which leads to a large congestion area and causes heavy traffic. Because the industry in the center of the city affects the health of society. 	<ul style="list-style-type: none"> • Employment rate increase • Employment base on public, commercial, institutional and industrial • Development cover all the city area • The recreational area is provided in between commercial and residential for managing congestion and minimizing traffic. • This recreational area provides social interaction area. • Proposal for health and institutional building helps

		people to improve their lifestyle plus education.
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6. CONCLUSION

The research found several problems with Ranchi's current plan for 2011. Therefore, the government of Jharkhand began the initial step of relocating key factories to the city's outskirts. BIFR/MUN cleaned up the abandoned areas and turned them into a commercial centre. The Brownfield became a commercial centre. As a result, planners have proposed recreational spaces between business and residential districts to offer interaction space for social activities and to alleviate commercial area congestion. The city's skyline has been further enhanced. Ranchi's existing strategy for 2011 has numerous flaws, according to the report. As a result, Jharkhand's government began the process of transferring important factories to the city's outskirts. The abandoned lands were cleaned up and converted into a commercial centre by BIFR/MUN. The Brownfield was turned into a commercial hub. As a result, planners have recommended recreational areas between business and residential zones to provide social interaction space and relieve commercial sector congestion. The city's skyline has been improved even more.

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