Feasibility Report for Gems and Jewellery Park in Mahape, Navi Mumbai

Submittedto:Gem andJewelleryExport Promotion Council (GJEPC)

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Building a better working world

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List of Abbreviations

AHU	Air Handling Unit
AOA	Articles of Association
B2B	Business to Business
B2C	Business to Customer
BDB	Bharat Diamond Bourse
BIST	Borsa Istanbul
ВКС	Bandra Kurla Complex
BMC	Bombay Municipal Corporation
CAD	Computer Aided Design
CAM	Computer Aided Manufacturing
CETP	Common Effluent Treatment Plant
CFB	Common Facilities Building
CFC	Common Facility Center
CHA	Customs House Agents
CPHEEO	Central Public Health and Environmental Engineering Organization
DEP	Deira Enrichment Project
DGCA	Directorate General of Civil Aviation
DGCIS	General of Commercial Intelligence and Statistics
DGEP	Director General of Export Promotion
DGFT	Director General of Foreign Trade
DIB	Diamond Intelligence Briefs
DISH	Directorate of Industrial Safety and Health
EHS	Environment Health and Safety
EoDB	Ease of Doing Business
EoU	Export Oriented Unit
EPC	Engineering Procurement Construction
ETP	Effluent Treatment Plant
FDI	Foreign Direct Investment
Forex	Foreign Exchange
FSI	Floor Space Index
FTA	Free Trade Agreement
FTZ	Free Trade Zones
FY	Financial Year
GDCR	General Development Control Regulations
GHB	Gujarat Hira Bourse
GIDC	Gujarat Industrial Development Corporation
GJEPC	Gem & Jewellery Export Promotion Council
Gol	Government of India
GST	Goods and Service Tax
H1	First half of the year
HRVA	Hazard Risk and Vulnerability Assessment



ICD	Investment Corporation of Dubai
IDC	Interest During Construction
IDTC	India Diamond Trading Centre
IEM	Industrial Entrepreneurs' Memorandum
IIJS	India International Jewellery Show
IIUS	Industrial Infrastructural Upgradation Scheme
IJPM	India Jewellery Park, Mumbai
IRR	Internal Rate of Return
JNPT	Jawaharlal Nehru Port Trust
KP	Kimberley Process
LBMA	London Bullion Market Association
MAFCO	Maharashtra Agro and Fruit Processing Corporation
MBP	Millennium Business Park
MDMA	Mumbai Diamond Merchants Association
MEIS	Merchandise Exports from India Scheme
MIDC	Maharashtra Industrial Development Corporation
MMRDA	Mumbai Metropolitan Region Development Authority
MOA	Memorandum of Association
MoC&I	Ministry of Commerce & Industry
MoU	Memorandum of Understanding
MPCB	Maharashtra Pollution Control Board
MRSAC	Maharashtra Remote Sensing Application Centre
MSE-CDP	Micro and Small Enterprises Cluster Development Programme
MSEDCL	Maharashtra State Electricity Distribution Company Limited
MSICDP	Maharashtra State Industrial-Cluster Development Programme
MSME	Micro, Small & Medium Enterprises
NBO	National Building Organization
NOC	No Objection Certificate
NPV	Net Present Value
NRI	Non-Resident Indian
O&M	Operating and Maintenance
OC	Occupancy Certificate
PGA	Partner Government Agency
QC	Quality Control
R&D	Research and Development
RCMC	Register Cum Membership Certificate
RERA	Real Estate Regulatory Authority
RJC	Responsible Jewellery Council
SDB	Surat Diamond Bourse
SDF	Standard Design Factory
SEEPZ	Santacruz Electronic Export Processing Zone
SEZ	Special Economic Zone
SFURTI	Scheme of Fund for Upgradation and Regeneration of Traditional Industries



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SNZ	Special Notified Zone
SPV	Special Purpose Vehicle
SRA	Slum Rehabilitation Authority
ттс	Trans Thane Creek
TUFS	Technology Upgradation Fund Scheme
UAM	Udyog Aadhar Memorandum
URDPFI	Urban and Regional Development Plan Formulation and Implementation
WBIDC	West Bengal Industrial Development Corporation Limited
WTP	Water Treatment Plant
у-о-у	Year on Year



DISCLAIMER

This document is being submitted to the Gem Jewellery Export Promotion Council ("GJEPC" or "Client"), by Ernst & Young LLP ("Ernst & Young" or "EY") as "Feasibility Report for Gems and Jewellery Park in Mahape, Navi Mumbai" as part of the advisory services delivered to the GJEPC for the work of "Advisory Services for Gems and Jewellery Park at Mahape, Navi Mumbai".

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Executive Summary

Content	Description	
Project Name	India Jewellery Park Mumbai	
Project Area	21.26 acre	
Project Location	The project site is located in Mahape, Navi Mumbai. The landmarks within a radius of 35km from the site are studied for regional connectivity via road and train and from local landmarks:	
	Regional connectivity from Mumbai International Airport, Navi Mumbai International Airport, Thane Railway Junction, Zaveri Bazaar, Bharat Diamond Bourse (BDB, BKC), SEEPZ Andheri and JNPT.	
	Distance from local landmarks like Ghansoli Railway Station, Kopar Khairane Bus Depot and Railway Station, APMC Market, Hotel Centre Point, Ramada, Shearaton and Sarovar Portico, MAFCO Vegetable Market, Fortis Hospital, Turbhe Railway Station and Bus Depot, Airoli Sewage Treatment Plant and Seafood Market.	
Proposed Product Mix	Industrial units: 1,106. With unit size ranging between 413 - 5,273 sq.ft. Commercial units: 248. With unit size ranging between 2,469 - 3,025 sq.ft.	
Project Background	India's contribution of the gem and jewellery sector to global exports stood at 3.38% worth USD 36 Bn in the year 2019 and plays a significant role in the Indian economy, contributing 7% to country's GDP. The contributions are attributed to the efforts of the Gems and Jewellery Export Promotion Council (GJEPC), set up by the Ministry of Commerce and industry, Government of India (Gol).	
	In order to continue driving India's export led growth and improving quantity and quality of gems and jewellery produced, GJEPC formed Special Purpose	



Content	Description		
	 Vehicle (SPV) and its wholly owned subsidiary a Section 8 company "India Jewellery Park Mumbai" (IJPM). GJEPC signed a memorandum of understanding (MoU) with Maharashtra Industrial DevelopmentCorporation (MIDC) to build the jewellery park in Navi-Mumbai, to be christened as "India Jewellery Park Mumbai" on 21 acre of land, to house jewellery unitsof various sizes. IJPM's role would be to enhance manufacturing, investment, export growth, working conditions of Karigars and overall economic development of Maharashtra and India. 		
Details of SPV	GJEPC formed an SPV and its wholly owned subsidiary a Section 8 company "India Jewellery Park Mumbai" (IJPM) on 17 January 2018, limited by guarantee and having a share capital as an SPV.		
Master Plan / Land Use	There conceptualm below:	aster plan with break-up provided	
	Brea	kup of Master Plan	
	Brea Land Area:	kup of Master Plan 86,056 sqm	
	Brea Land Area: FSI Utilised:	kup of Master Plan 86,056 sqm 3	
	Brea Land Area: FSI Utilised: Ground Coverage:	kup of Master Plan 86,056 sqm 3 31.30%	
	Brea Land Area: FSI Utilised: Ground Coverage: Building Height:	kup of Master Plan 86,056 sqm 3 31.30% G+31, G+14, G+9, G+1	
	Brea Land Area: FSI Utilised: Ground Coverage: Building Height: Total Builtup Area:	kup of Master Plan 86,056 sqm 3 31.30% G+31, G+14, G+9, G+1 4,88,817 sqm (52,61,622 sqft)	
	Brea Land Area: FSI Utilised: Ground Coverage: Building Height: Total Builtup Area: Karkhana:	kup of Master Plan 86,056 sqm 3 31.30% G+31, G+14, G+9, G+1 4,88,817 sqm (52,61,622 sqft) 2,93,968 sqm	
	Brea Land Area: FSI Utilised: Ground Coverage: Building Height: Total Builtup Area: Karkhana: Shops/Showroo m:	kup of Master Plan 86,056 sqm 3 31.30% G+31, G+14, G+9, G+1 4,88,817 sqm (52,61,622 sqft) 2,93,968 sqm 58,552.5 sqm	
	Brea Land Area: FSI Utilised: Ground Coverage: Building Height: Total Builtup Area: Karkhana: Shops/Showroo m: Common Facility:	kup of Master Plan 86,056 sqm 3 31.30% G+31, G+14, G+9, G+1 4,88,817 sqm (52,61,622 sqft) 2,93,968 sqm 58,552.5 sqm 890 sqm	
	Brea Land Area: FSI Utilised: Ground Coverage: Building Height: Total Builtup Area: Karkhana: Shops/Showroo m: Common Facility: Hotel:	kup of Master Plan 86,056 sqm 3 31.30% G+31, G+14, G+9, G+1 4,88,817 sqm (52,61,622 sqft) 2,93,968 sqm 58,552.5 sqm 890 sqm 1,35,410 sqm	
	Brea Land Area: FSI Utilised: Ground Coverage: Building Height: Total Builtup Area: Karkhana: Shops/Showroo m: Common Facility: Hotel: Rental Housing:	kup of Master Plan 86,056 sqm 3 31.30% G+31, G+14, G+9, G+1 4,88,817 sqm (52,61,622 sqft) 2,93,968 sqm 58,552.5 sqm 890 sqm 1,35,410 sqm 4,88,817 sqm (52,61,622 sqft)	
	Brea Land Area: FSI Utilised: Ground Coverage: Building Height: Total Builtup Area: Karkhana: Shops/Showroo m: Common Facility: Hotel: Rental Housing:	kup of Master Plan 86,056 sqm 3 31.30% G+31, G+14, G+9, G+1 4,88,817 sqm (52,61,622 sqft) 2,93,968 sqm 58,552.5 sqm 890 sqm 1,35,410 sqm 4,88,817 sqm (52,61,622 sqft)	



Content	Description	
Common Infrastructure Proposed	Common infrastructure facilities envisaged in the jewellery park include: Exhibition Center Vault Facility Business Center Common Effluent Treatment Plant (CETP) Training Center Accommodation for Karigars Support infrastructure - Logistics, Banks, Refinery, Canteen etc.	
Project Cost	Total estimated project costs INR 1,827 crore Total cost includes land cost, utility, construction cost, man	for: land development and rketing & admin cost.
Means of Finance	Total project cost will be finar	nced as below:
	Funds required	Amount (INR crore)
	Project cost	1,827
	Means of finance	
	Advances from members	1,197
	Debt	500
	Contribution from GJEPC	130
	Total	1,827
Estimated Employment	1 lakh people	
Operation and Management	The SPV IJPM would be responsible to promote and maintain, operate, advance, improve, enhance, devise, evaluate, execute, protect and develop the Jewellery Park.	
Revenues for SPV	 SPV would earn revenues from Sale of constructed sp Operating and Mainten levied to occupants 	n: ace and parking space nance(O&M) charges
Contractual Framework	 Sub leasing agreement between IJPM, MIDC and industrial units. Sale deed/lease agreement between IJPM and industrial units. 	
Statutory Clearances	All the statutory clearances a concerned departments and D etc. would be obtained by the commencement of constructi procedural clearances would Window Portal.	nd approvals from the Directorate of Industries e SPV before the on works. All be through state Single



Content	Description
Implementation Schedule	The project shall be developed in 3 broad phases. The entire plotshall be developed in a span of 5 years from the initiation of construction for Phase I, starting in December'2022.
Financial Indicators of the Project	 As per the study and various assumptions the park project seems viable. IRR has been calculated based on financial assumptions, however it is not a true representation in such type of projects where no significant upfront payment has been incurred by the implementing SPV as compared to the revenue earned and costs incurred on the project.





Introduction

1 Introduction

The chapter aims to cover the key rationale behind setting up of Gems & Jewellery Park in Mahape region and proposed economic impact on investment and employment generation. The park aims to address key issues being faced such as unorganized workforce; gold loss; environmental concerns, etc.

1.1 Project Background

India is one of the major exporters of gems and jewellery in the world. India's contribution to global trade of gems and jewellery was recorded to be 8.77%, staging India at 5th position globally¹. The contribution of the sector to global exports stood at 3.38% worth USD 36 Bn in the year 2019 and plays a significant role in the Indian economy, contributing 7% to country's GDP.

The contributions are attributed to the efforts of **the Gems and Jewellery Export Promotion Council (GJEPC)**, an autonomous body set up by the Ministry of Commerce and industry, Government of India (GoI) in 1966. GJEPC role has been to promote brand India, connect government and trade, spread education, look after health and well-being aspects of the Karigar community and bolster innovation and infrastructure. GJEPC is a Section 25 Company under the provisions of the Companies Act, 1966 as a Company limited by guarantee not having share capital. It represents the interests of more than 6800 members across India. The Committee of Administration of GJEPC (Board of Directors) includes Government nominees representing from Representative from Ministry of Commerce & Industry (MoC&I), Director General of Export Promotion (DGEP), Director General of Foreign Trade (DGFT).

Constitution of Special Purpose Vehicle (SPV):

In order to continue driving India's export led-growth and improving quantity and quality of gems and jewellery produced, GJEPC formed Special Purpose Vehicle (SPV) and its wholly owned subsidiary Section 8 company known as "India Jewellery Park Mumbai" (IJPM) on 17 January 2018, limited by guarantee and having a share capital as an SPV. SPV is to promote and maintain, operate, advance, improve, enhance, devise, evaluate, execute, protect and develop a Jewellery Park. The Jewellery Park was part of the 12th five-year plan and it had a sanction of INR 50 crore.

GJEPC is primary Stakeholder and implementing agency of the project and works closely with other stakeholders like MIDC, Government of Maharashtra, Ministry of Commerce and Industry, Central Government, DGFT, Board Members and COA of GJEPC, Trade and Industry association, for implementing and operating the project.

MoU with MIDC:

GJEPC signed a memorandum of understanding (MoU) with Maharashtra Industrial Development Corporation (MIDC) on 19 February 2018 to build jewellery park in Navi-Mumbai, to be christened as "India Jewellery Park Mumbai" on 21 acre of land, to house jewellery units of various sizes. IJPM is expected to enhance manufacturing, investment, export growth, working conditions of Karigars and overall economic development of

¹ UN Comtrade data for the year 2019



Maharashtra and India. The MoU was signed at the convergence 'Magnetic Maharashtra' and the signing was graced by Hon'ble Union Minister of Commerce & Industry and Hon'ble Chief Minister of Maharashtra.

1.2 Project Vision and Objectives

Vision: A world-class jewellery park enhancing global competitiveness and contributing to economic development of Maharashtra and India by attracting investments of over <u>INR 14000 crore</u> and creating employment opportunities for <u>over 1 lakh workers</u>.

The vision of the jewellery park is to develop a state-of-the-art organized ecosystem for labour-intensive jewellery industry addressing the prevalent issues in existing unorganized clusters for Karigar community such as poor infrastructure and safety hazards, living and working conditions, redundant tools and machinery, cumbersome government procedures and legal issues. This dynamic venture will provide effective support to jewellery manufacturers/traders who are interested to relocate, expand or invest in the state of Maharashtra and the region to initiate new business or strengthen their existing business, benchmarking with the Jewellery Parks created in countries like China, Turkey, Italy, Thailand, etc.

The project is envisaged to house more than 5,000 Gems and Jewellery units on 21 acre plot of land in Mahape, Navi Mumbai. The emphasis will be on 17 sustainable development goals, as promulgated by the United Nations which include health, safe and de-congested working conditions, better food, hygiene and habitation facilities which can be accessed by the MSMEs.

India Jewellery Park Project Objectives:

The objective of the jewellery park project is to develop an integrated facility housing under one roof the complete value chain of the gems and jewellery manufacturing industry and its supporting ecosystem including handmade and mechanized jewellery units.

- 1. To augment the jewellery manufacturing ecosystem in the State, complemented by ease of doing business initiatives, thereby evolving it into a preferred destination for global manufacturers and investors.
- 2. To attract an estimated investment of **INR 14000 crore** spread over the period of five years post commencement of the project and generate an annual turnover of more than **INR 41000 crore**, majorly contributed by exports.
- 3. To create state-of-the-art infrastructure, ancillary facilities, training and provide conducive business environment in the jewellery park for enhancing manufacturing and amplifying exports.
- 4. To create **1 lakh direct jobs** in the sector and multiplier effect through indirect job creation.
- 5. To strengthen employment intensive Gems and Jewellery sector through MSME promotion and inclusive growth.
- 6. To promote local handmade jewellery.
- 7. To improve the living standards of Karigars and develop interest among the next generation of such workers.



1.3 Project rationale

1.3.1Gems and Jewellery Industry assessment

1.3.1.1 Global Scenario

The jewellery industry accounted for a 48.5 percent share of global gold demand in 2019, which amounted to ~2,122.6 metric tons². The total exports value of global Gems and Jewellery is valued at about USD 652 billion (INR 48.9 trillion). Major exporters include Switzerland (12.5%); HK (10%); USA (7.3%); UAE (7%).

The world production of gold mines has increased steadily since 2005 from 2,470 metric tons of gold to 3,300 metric tons in 2019. The countries that produced the largest amount of gold in 2019 were China, Australia, and Russia. China produced an estimated 420 metric tons, Australia produced 330 metric tons, and Russia produced 310 metric tons.

In 2019, the global luxury jewellery market amounted to about USD 24.8 billion. The lion's share of the jewellery market revenue is attributed to China, followed by the United States, Japan and India. World's gold demand for jewellery segment dropped in 2019 and reached at the levels last seen in 2012. Further, H1 2020 jewellery demand slumped 46% y-o-y to 572 metric tonne3 as markets remained in lockdown due to Covid-19 pandemic and consumers were deterred by the high price and a squeeze on disposable income. Jewellery demand measured in value terms was similarly weak, despite the strength in gold prices over the period; the H1 value of USD 30.1 billion is the lowest since 2009 - a time when the US dollar gold price was roughly 50% of recent levels.

China and India, world's second biggest consumer of gold jewellery saw their demands plummeted to 152.2 metric tons in H1 2020 - a 52% decline on y-o-y basis and 117.8 metric tons - 60% down from similar period last year. Other key markets such as Italy, Middle East and US also saw their demand for gold jewellery dropped and with the rise inprices the demand was virtually stopped during April and May 2020. Middle East which gets a major revenue of gold jewellery through tourist purchase saw their demand quashedto several quarters low. The value of the jewellery market is expected to increase in H2 of 2020 contributed by jewellery demand from wedding segment.



Figure 1. World Gold demand for Jewellery segment (metric tons)

² Metals Focus, Refinitiv GFMS, ICE Benchmark Administration, World Gold Council.

³ <u>https://www.gold.org/goldhub/research/gold-demand-trends/gold-demand-trends-q2-2020</u>







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1.3.1.2 India contribution to Global Gems and Jewellery Value Chain

India ranks 6th in Gems and Jewellery exports globally with a share of USD 40 billion (INR 3 trillion) in FY19 and around 15.7% of total merchandize exports. Hongkong (33%), UAE (25%) and US (23%) were the largest export destinations of Indian gems and jewellery merchandise. The sector attracted around USD 1.16 billion (INR 87 billion) FDI between Apr 2000 and Mar 2019.

Apart from jewellery, India exports variety of other items of gems and jewellery such as cut and polished diamonds, gold and silver jewellery, gold medallions and coins, coloured gemstones, pearls and synthetic stones, and rough diamonds. Cut and polished diamonds and gold jewellery accounts for more than 75% of total exports from the country.

India is the leader for exports of cut and polished diamonds and exported 75% of the world's polished diamonds in FY19. While India ranked second globally in diamond exports valued at USD 23 billion (INR 1.73 trillion). Total gross exports, including cut and polished diamonds, in March are estimated to slip to USD 1.5 billion (INR 112.5 billion) compared to USD 3.4 billion (INR 255 billion) a year ago; thereby, registering a decline of 56.4% y-o-y. As a result, total export in 2019-20 is expected to be USD 35.14 billion (INR 2.6 trillion), a fall of 11.33% from a year ago. 1 billion pieces of diamonds valued at ~USD 3 billion are processed in India and today 14 out of 15 diamonds sold in the world is processed in India.

On the import front, Indian import of gems and jewellery stood at USD 24.1 billion during FY 20. Government of India is aiming to achieve a jewellery export target of USD 80 billion till 2025. India is largest consumer of gold, accounting for more than 20% of the total world's gold consumption.







Import	Major Import Commodities:	Major Import Countries Top 5 - UAE,
	Rough Diamonds; Rough Lab Grown Diamonds; Rough Colored Gemstones; Rough	Belgium, Switzerland, Hong Kong,South Africa
	Synthetic Stones; Raw Pearls; Gold Bar; Silver Bar; Platinum Bar; CPD-SEZ	Other - Russia, Singapore, Israel, Russia, Thailand, Israel, Spain and USA

⁴ GJEPC.

Export	Major Export Commodities:	Major Export Countries
	Cut and Polished Diamond; Polished Lab Grown Diamond; Colored Gemstone; Polished Synthetic Stones; Pearls-Worked; Plain Gold Jewellery; Studded Gold Jewellery; Silver Jewellery; Platinum Jewellery; Imitation Jewellery; Articles of Gold, Silver and Other; Gold Medallion and Coin	Top 5 - USA; UAE; Hong Kong; Belgium; Israel Others - Singapore, Netherlands, Namibia, Australia, Sri Lanka, United Kingdom, Peoples Republic of China, South Africa, New Zealand, Lebanon and Spain

Traditionally, the Jewellery industry in India is scattered across different regions in India and in different clusters mainly in cities such as Mumbai, Jaipur, Thrissur, Kolkata, Hyderabad and Jalgaon. India's gems and jewellery sector contributes about 7%⁵ to India's Gross Domestic Product (GDP). As per industry estimates the size of Indian Gems and Jewellery market was ~INR 650,000 crore during 2017-18 and constituted 90-95% of MSMEs. The sector employs over 4.64 million employees and is expected to have nearly 8.23 million employees by 2022. Gujarat has the highest share at about 85% in the total national jewellery production and accounts for 72% of the global share of processed diamonds (90% of diamonds in Gujarat are processed in and around Surat).⁶

Category	Gold		Gemstones & Diamond		Jewellery	
Production	1.36 tones		38.1 (1,000 Carats)		USD 20.1 billion	
Top states in	Karnataka,		Madhya Pradesh, Andhra		Gujarat, Maharashtra,	
production	Jharkhand, Andhra Pradesh		Pradesh, Orissa		Kerala, Tamil Nadu, West Bengal	
Domestic	Kerala, Goa,		Gujarat, Maharashtra		Tamil Nadu, Kerala,	
consumption	Karnataka, Tamil Nadu, Jammu and Kashmir, Punjab				Karnataka, Himachal Pradesh, Punjab, West Bengal, Jammu and Kashmir	
Import (USD billion)	31.22		23.87		0.64	
Imports from major	Switzerland,	UAE,	Belgium, UAE, U	SA, Hong	USA, UAE,	Hong
countries	Ghana, USA		Kong		Kong, Thailand	
Export (USD billion)	1.86		22.81		13.66	
Exports to major countries (FTA with	Turkey	0.76	Hong Kong	8.31	UAE	8.27
Myanmar, Singapore, Thailand, Japan, Switzerland, Sri Lanka)	Hong Kong	0.57	USA	7.46	USA	2.02
	UAE	0.39	Belgium	2.22	Hong Kong	1.60
	Switzerland	0.05	UAE	1.43	Singapore	0.39

Table 2: Indian Gems and Jewellery Production and Consumption Centres⁷

⁷ UN Comtrade.



⁵ IBEF, August 2020

⁶https://economictimes.indiatimes.com/small-biz/sme-sector/for-thousands-of-diamond-traders-a-new-bourse-in-surat-promises-to-add-to-the-shine/articleshow/68626309.cms?from=mdr

India is one of the largest global jewellery consumption market with share of approximately 29%. The sector is home to over 300,000 gems and jewellery players with expected market growth by USD 103.06 billion (INR 7.7 trillion) between 2019 and 2023. Mumbai in Maharashtra is the largest wholesale market for jewellery.



Figure 5. India Gems and Jewellery Cluster Mapping

Region	Clusters	Units	Employment	Cluster-wise Products	
North	38	3100	1.40 lakh	 Plain Gold Jewellery Diamond Studded Jewellery Silver Jewellery Imitation Jewellery 	
West	72	33000	3.60 lakh	Diamond JewelleryColoured StonesGold and Silver Jewellery	
South	69	45400	19.6 lakh	Plain Gold JewelleryStudded Jewellery	
East	13	6000	0.62 lakh	 Plain Gold Jewellery Diamond Studded Jewellery Silver Jewellery Imitation Jewellery 	

1.3.1.3 Conducive Gems and Jewellery Industry ecosystem in Maharashtra

Gems and Jewellery is one of the key industries of the State with over 50 big diamond companies based in Mumbai. State contributes majorly to the export from the Gems and Jewellery Sector. Maharashtra is one of the key states with gemstone reserves and mining potential. Some of the big industries in Maharashtra are TBZ, Swarovski, Kalyan, Gitanjali, Shrenuj, OM Jewelers, Asian Star, Hemant Jewels, PNG, WHP, Sheetal Group, etc.



Mumbai, Kolhapur, Nanded and Aurangabad are key Gems and Jewellery Hubs in the State.

Mumbai caters to both national and international markets whereas, rest of Maharashtra (clusters in Akola, Jalgaon etc.) cater to only domestic and national market. This unique characteristic of clusters present in Mumbai is not present in any other city of India.

A specialized Silver Zone at Hupri in Kolhapur. This Zone offers integrated Infrastructure of International Standard and Common facilities tailor-made for the silver units. This Silver Park is spread across 200 acre and has centralized facility such as recycling and purifying effluents, Banks, Schools, post office.



Aurangabad is known for its Lac jewellery. The

district also has a jewellery market in Pachod city known for gold jewellery.

Nanded has got an approval of Gold Jewellery Cluster to be setup under the Maharashtra State Industrial-Cluster Development Programme (MSICDP) programme.

1.3.1.4 Advantage Mumbai

Mumbai, the financial hub of India, is the largest exporter of gems and jewellery accounting USD 22.6 Bn (63.6 % of the total exports of gem and jewellery). It is also the largest wholesale market of plain gold and studded gold jewellery in India. Mumbai is also a key centre for cast and diamond-set jewellery. SEEPZ in Mumbai alone accounts for almost a quarter of the jewellery imports of USA, the world's largest jewellery consumer. The Indian gem & jewellery industry has the largest skilled and talented workforce of 4.5 million; contributed majorly by workforce from Bharat Diamond Bourse and SEEPZ in Mumbai, Maharashtra.

Mumbai has developed as one of the foremost trading centre of diamonds in the world, where from some 90% of total diamond exports of the country were taking place. Understanding its importance in the 1990s the diamond industry forward integrated to studded jewellery manufacturing at **SEEPZ**, **Santacruz in Mumbai** which today contributes to 30% of the jewellery exports of the country. The SEEPZ has grown in its stature and has expanded in the adjacent Maharashtra Industrial Development Corporation (MIDC Complex) also.

Santacruz Electronics Export Processing Zone (SEEPZ) SEZ, Mumbai: SEEPZ SEZ is spread across 111 acre in center of city, having well-connected network of central roads, business facilitation center, central warehouse, foreign post office, offshore banking unit, authorized dealer of foreign exchange, convention center, in-house custom clearance facility, uninterrupted power supply makes this place very ideal location for Gems and Jewellery sector.

Bharat Diamond Bourse (BDB) in Mumbai is the largest Diamond Bourse in the world. BDB in around 20 acre of land generates an employment of 60,000 people. It is a major trading and business centre for diamond trading with 90% trade happening from Mumbai.



Zaveri Bazar, one of Asia's oldest and biggest jewellery market in Mumbai spread in 247 acre houses more than 10,000 units of large as well as small scale engaged in jewellery manufacturing. Zaveri bazar has many small-scale individual units from 150 square feet to 250 square feet area individually. Zaveri Bazar is more focused on handmade jewellery which is traditionally being made by Karigars (Artisans) from West Bengal. Handmade Jewellery units are scattered all over the Mumbai region fromNalasopara to Bhuleshwar and in Sewri to central suburbs. Other parts of Mumbai such as Sewri (LowerParel), MIDC SEEPZ (Andheri) houses larger units which focuses more on machine made jewellery.

The largest gems and jewellery tradeshows IIJS and IIJS Signature are also held annually in Mumbai attracting more than 10,000 visitors from the industry.

Dedicated Institutes in Maharashtra for Gems and Jewellery Sector

- The Gemological Institute of India in Mumbai has state of the art laboratory facilities for colour stone identification, geographical origin determination, diamond grading, grading of diamond studded Jewellery and R&D facility
- **The Indian Institute of Gems & Jewellery** based in Mumbai is one of its kind in the Country and has been setup for skill development and necessary support and guidance for entrepreneurs.

1.3.1.5 Factors impeding growth of Gems and Jewellery Industry in Mumbai

The key factors impeding growth of Gems and Jewellery Industry in Mumbai are:

- 1. Unorganized growth of clusters: The organic growth clusters like Zaveri bazaar are old and thickly populated. Melting facilities in these areas are a potential fire risk. Dilapidated old infrastructure and unsafe structural conditions lead to frequent inspections and visits of Government officials which slow down the productivity even further. Majority of entrepreneurs in the clusters are not directly involved in the trading and direct selling of the finish goods in the market. The owners / entrepreneurs are solely running unit based on the orders received from the traders and big companies.
- 2. **High loss of raw material:** Due to dependency on the Common facilities of dye cutting, polishing, patra making, wire making and melting, etc. percentage loss in the raw material is high and there is a huge scope of improving Recovery of raw material.
- 3. Security concerns: Goods are shifted through unsecured channels from unit to unit for many processes. Overall security of goods, workers as well as workspace is a major concern with bare minimum protection to commercial premises.
- 4. Unsafe and congested working environment: Lack of proper workplace for workers/ karigars. At present the workplaces are devoid of the minimum requirements required for labourers like space, ventilation or comfort. In most of units, artisans spend approximately 12 workhours a day, in small rooms sized 10 feet x 12 feet, in stark absence of essential utilities such as toilets, pantry etc. The workers are working and mainly staying in the same premises on mezzanines in that unit.
- 5. **Poor Infrastructure:** Lack of proper accommodation facilities and training facility. Further there are no ancillary facilities like business hotels located in proximity for international buyers, convention centre, incubation centre, etc.
- 6. Lack of recognition of skill: No provision to grant professional recognition to workers and enable them to showcase their skills in a dignified manner. The future generation of these



workers does not prefer to enter this profession because of lack of status symbol and recognition of their skills and non-rewarding nature.

- 7. **High Rental cost:** Owing to high demand for commercial space in prime locations of Mumbai city, the rental cost is high leading to increase in production cost.
- 8. **Reverse migration:** Artisans are moving to other sectors and other cities of Gujarat, West Bengal, Odisha due to enabling environment those states.

1.3.2 USPs of proposed Gems and Jewellery Park

The compelling success of the cluster model and the freedom given to industry players inside the clusters has led to the idea of creating the jewellery park. There are clusters like SEEPZ in Andheri, Mumbai, contribute to jewellery exports worth USD 2.4 Bn owing to the infrastructure facilities provided in SEEPZ. Industries enjoy incentives and relaxation on import, customs and excise duty, which otherwise become hinderance for any Export Oriented Unit (EoU). Another important cluster is the Zaveri Bazar in Mumbai, one of the oldest and largest wholesale market of Gold jewellery, housing around 10,000 manufacturing units in the area of 1 sq.km. Zaveri Bazar contributes 60-70% of the total jewellery trade in India and specializes in the handmade jewellery manufacturing, providing employment for lakhs of Karigars. The sector is unorganized, however, due to the presence of the complete ecosystem, jewellers of Zaveri Bazar are able to produce world-class handmade jewellery.

Jewellery Park is the need of the hour, to encourage the local handmade Jewellery workers and factories in local Zaveri Bazaars to relocate themselves in such parks and thus develop the trade itself. Jewellery Parks would also help in improving the living standards of not only the existing Karigars but also develop interest among the next generation of such workers who are currently reluctant to join the industry due to pitiful working condition and the atmosphere in which the workers currently operate.

A jewellery park will offer host of benefits to its stakeholders including:

- 1. Fiscal benefit:
 - a. **Competitive cost of land/ built up space:** The park is proposed to be setup in Mahape, Navi Mumbai, which has significantly lower rate for both, purchasing land and renting space. The rate for purchasing industrial land in Mumbai can go up to INR 30,000 per sqft, which is INR 3,000 - 6,000 in Mahape, Navi Mumbai.
 - b. Shared cost of common facilities: Availability common infrastructure of jewellery manufacturing processes like Effluent Treatment Plant (ETP), Scrubbers, Gas pipeline, refinery, hall marking facility etc. will reduce the production cost. For jewellers, efficiency of the whole manufacturing process will improve due to presence of common facilities and the whole ecosystem under one roof, making the process faster and smoother.
 - c. **Reduction in gold loss:** Provision of state of art infrastructure to recover gold dust easily from carpets and drainage systems will reduce the gold loss ratio from present 10% to 3%.



- 2. Facilitating regulatory environment with single window clearance: Compliance to existing norms for development will reduce Government officials' repeated inspection visit for verifying the infrastructure. The jewellery park will have a single window permission for manufacture and sale of jewellery. GJEPC has requested intervention from Government of Maharashtra for provision of a single window clearance for granting 21 odd permissions required for setting up units in the jewellery park and also to provide with concessions available for greenfield investments in the state.
- 3. Location and connectivity advantage: The proposed project location in Mahape, Navi Mumbai offers a host of real estate benefits such as organized and planned development, less traffic jams, wide roads, trans-harbor line local connectivity, comparative lower real estate cost for commercial, office and residential space. The project site is well connected and accessible with two nearby local railway stations Kopar Khairne (3 kms) and Ghansoli (4 kms), 8 lane highways and Eastern freeway road connectivity to Mumbai and Thane via Vashi and Airoli, centrally located for both, Mumbai International Airport (25 kms) and the upcoming Navi Mumbai International Airport (16 kms) and seaport connectivity to major jewellery hubs BDB in BKC (24 kms) and Zaveri Bazar (33 kms). Promoting 'Walk to Work' concept, the accommodation facilities to be developed in near vicinity of jewellery park.
- 4. Enabling Trade and business environment: The jewellery park will not only house the manufacturing units, but also act as a commercial hub and market for jewellery trade and distribution. The jewellery park will have multi-purpose halls for conducting events and exhibitions to facilitate buyer-seller meets and trading. It will provide an equal opportunity for the players inside the park to take part in the exhibitions and showcase their piece of work, which can lead to increased competition amongst jewellers and will eventually result in better quality of jewellery produced. The jewellery park will provide a platform for Indian and overseas buyers to witness the art of jewellery making and give them an option to trade directly with the jewellers and Karigars as well for some niche job work. Jewellery Souk (Market) inside Jewellery Park where NRI and foreign buyers can come and shop Jewellery at International prices on payment of FOREX.
- 5. A manufacturing zone rather than an SEZ: An additional USP of the India Jewellery Park Mumbai to be noted is that, it is being developed as a manufacturing zone rather than an SEZ. SEZs have their own challenges and pose restrictions on the manufacturing units of different nature. In the proposed IJPM, various clusters of Mumbai will come together to form a manufacturing zone and the shortcomings of the SEZ model would become an advantage for the proposed jewellery park.
- 6. Highly secured premises: With advanced security provisions, movement of goods and workers can be monitored and controlled. Goods need not be carried out for many processes, as the CFC shall be made available on the Ground floor of each building as well in the premises. The security provision envisaged for IJPM should be considered as one of the USPs of the proposed jewellery park, like provided in SEEPZ, Andheri and Bharat Diamond Bourse, BKC.
- 7. Mitigating safety hazards: The incidents due to accident and fire hazard can be eliminated and can be covered under accident insurance policy.
- 8. Availability of ancillary infrastructure in one place: Presence of infrastructure and services like security, banks, canteens, hotel, Karigar dormitories, recreational area, raw material



suppliers, tools and equipment vendors, logistics, food vendors and transport, multi-purpose halls for conferences, trainings and exhibitions etc. which can be commonly used and will provide cost benefit to stakeholders.

- **9. Training and skill development opportunities:** Trainings shall be provided to Karigars for upskilling. The jewellery park would have training sessions by national and international delegates for the skill development of Karigars. The jewellery park will also play an important role for educational purposes to help students witness and train in both, mechanized and handmade jewellery manufacturing. There can tie-ups with Indian Institute of Gems and Jewellery and Gemological Institute of India to facilitate the same.
- **10.** Psychologically Healthy Workplace and Fitness Benefits for Karigars: With proper infrastructure in place, the quality and productivity of the Karigars will improve. A psychologically healthy workplace fosters employee health and well-being while enhancing organizational performance, thereby benefiting both employees and the organization. Self-content units will make the workplace healthier, which will reduce the health issues of the karigars by which medical expenses will reduce. Rented residential units for bachelors as well as rented family houses to be made resulting in healthy life of the workers. Due to residential facility available in the premises and near vicinity the travelling time and cost of the workers will be saved.
- 11. Promotion of handmade jewellery making: The park will provide the Karigar more opportunities and exposure to business ecosystem for Preserving the dying art of handmade jewellery making. It will not only will provide livelihood to Karigars, but will also pave the way for a stable and secure employment avenue for their future generations to come, who could be reluctant to join the industry having witnessed the working conditions, non-recognition of their skillset in society and non-rewarding nature of the job, in which Karigars currently operate. Karigars can easily focus on quality, design, (Indian concept/ culture-based designs) etc., which will support to convert the Jewellery park to one of the biggest hubs for B2B and B2C merchandizing in future.
- **12. Avenue for tourism:** The jewellery park would be designed in order to attract tourists, where it can act as an educational experience for all the visitors of the jewellery park, witnessing the art of jewellery manufacturing.





Benchmarking with best practices

2. Benchmarking with best practices

This chapter entails study of international and national case studies of similar jewellery parks to identify actionable insights and development strategy for world class jewellery park. International case studies reviewed are Gold Souk Extension in Dubai, Shawan Jewellery Park in China and National case studies reviewed are Surat Diamond Bourse and Gem and Jewellery Park in Surat, Gujarat and Gems and Jewellery Park in Ankurhati, West Bengal.

2.1 International best practices benchmarking

2.1.1 Gold Souk Extension, Dubai

Gold Souk is one of Dubai's oldest and most recognizable commercial centers. The new Gold Souk, being developed by Ithra Dubai is an extension to the old one. In the master plan, "Transit Oriented Development" is being undertaken with the objective of reducing people's travel distance between their place of work, residence, and leisure.

Location and	Gold Souk Extension is			
Connectivity	located in Deira Al Ras			
	district of Dubai - United			
	Arab Emirates, which is			
	close to the Al Fahidi			
	district.			
	The new Gold Souk			
	Extension will be right next			
	to the existing Deira Gold			
	Souq, takes up the stretch			
	from the Shindaga Tunnel			
	to the edge of Hyatt			
	Regency.			
Project Cost and Time	Dirham 3.5 billion (INR 70.17 Billion), Completion in March 2021			
Project Proponent	Government Proponent - Ithra, Dubai LLC, owned by Investment			
	Corporation of Dubai (ICD), UAE.			
Area	6,84,790 SqMtrs (169.21 Acre)			
Infrastructure	Retail Units - 176; Offices - 225; Residences - 289			
Common Facilities	Transportation Hub, Hotels, Service Apartments, Shopping Area			

Table 3. Project Details of Gold Souk Extension, Dubai

Development concepts and segments/ components: Ithra Dubai is implementing the Gold Souk Extension scheme as part of its Deira Enrichment Project (DEP). The new extension to Gold Souk will be an amalgamation of traditional business centres and modern shopping areas, and hopefully enhance the status of Gold Souk as a shopping, tourist, and business destination. The idea with the New Gold Souk is to showcase the entire Gold souk area, both old and new, as a single attractive entity.



- Infrastructure availability: A total number of 36 plots have been taken-up for development admeasuring area of 6,84,790 Sq. Mtrs (169.21 acre). Gold Souk Extension will comprise 840 retail spaces, 400 offices, hotels, and serviced apartments, plus 2,200 affordable homes.
- **Target Market:** Gold Souk Extension's target market would be existing traders and stakeholders at the souk, Jewelers and multi-channel manufacturers.
- Occupancy/ Absorption levels, Pricing: There is a positive interest received from jewellery retailers as the extension is being developed right next to the existing Gold Souk. Therefore, a readily available market for potential buyers/customers is already there. 100 out of the 295 new retailers plan to open their operations at the Deira Gold Souk under the first phase of a wider development. Lease rates for the new outlets will "start from INR 14,033 a square foot" and jewellery retailers can book for minimum three years duration. In the Old Souk, the current prevalent rates are INR 20.05 million for a single store in a prominent spot.
- Government's role in the project (incentives / policy aspects): Ithra, Dubai LLC is owned by Investment Corporation of Dubai (ICD), UAE. Key Money clause (which used to sum up to as high as INR 100.24 million to INR 120.28 million during the peak times) has been taken off. Now redevelopment of land for the Project is being prioritized, with developing strategies for marketing assistance and attracting a new league of retailers.
- Best practices and success factors:
 - a. No key money (flat sum over and above agreed rental terms) has to be paid to the landowner.
 - b. Modernization and efficiency in the utilization of space has been envisaged in order to improve the movement of people and goods in and around the Souk area.
 - c. While meeting the demands of modern gold commerce and trading, the existing character and culture of the established has been preserved.

Figure 7. Souk Extension, Dubai and Proposed Jewellery Park Scale Understanding







2.1.2 Shawan Jewellery Park, China

The Shawan Jewelry Park, established in 2002 as a gold manufacturing center, is now home to jewelry factories, trading offices, an industry service center, and trade organizations. It also hosts tourists and has a large-scale living area for factory employees. The park provides a central service center to facilitate business for its members, Customs, express transportation, and gem-testing services located inside the center. Business owners can complete all the necessary steps to export their goods without leaving the park. Besides providing services for the business enterprises, the park also has a large dormitory area for employees. Comfortable living conditions and a safe and friendly environment helped to attract young workers to Panyu.

Location	Panyu District, Guangzhou, Guangdong Province, China
Project Cost and Time	Established in 2002 as manufacturing unit, transformed into Jewellery Park in 2006
Project Proponent	Government Proponent - Project was established with government support from Guangzhou City and Panyu district.
Area	2,25,418 Sq. Mtrs (55.7 acre)
Infrastructure	Factory Buildings - 25; Dormitories Buildings - 6; Office Buildings - 2
Common Facilities	Bonded warehouse, Diamond trading platform, Inspection centre, Custom clearance, Foreign economic trading bureau, National Gemstone Testing Centre

Table 4. Project Details of Shawan Jewellery Park, China

- Development concepts and segments/ components: Setting up the park promoted organised setup of jewellery manufacturing which provided safe operating environment along with availability of skilled labour. The jewellery industry at Shawan Park includes jewellery manufacturers, jewellery traders, jewellery brand companies, banks, logistics companies, and manufacturing tool suppliers.
- Infrastructure availability: The Shawan Jewellery Park spans across an area of 2,25,418 Sq. Mtrs (55.7 acre, which includes 25 Factory Buildings; 6 Dormitories Buildings and 2 Office Buildings).



- Ancillary components: Shawan Jewellery Industrial Park in Panyu has launched Worldmart*E, an e-commerce platform that provides services including bonded warehouses, import and export customs clearance, logistics and insurance. Initiated shipping of products from factories directly to consumers, in order to keep prices more competitive.
- **Target market:** The target market for Shawan Jewellery Industrial Park is Jewellery production companies, Jewellery traders and Jewellery brand companies.
- Occupancy/ Absorption levels, Pricing: Established in 2002 as manufacturing unit, transformed into Jewellery Park in 2006, Shawan Jewellery Park has drawn the attention from several advanced economies to choose Panyu as their destination for setting up manufacturing units.Currently the Park accommodates- Jewelry factories, trading offices, an industry service center, and trade organizations.
- Government's role in the project (incentives / policy aspects): Project was established with government support from Guangzhou City and Panyu district. Shawan Park was marketed so well across the globe that several advanced economies invested in Panyu for setting up manufacturing units including Jewellery enterprises from USA, India, Japan, Canada, France, Belgium, Singapore, Malaysia, Hong Kong and Taiwan. Business owners in the park can complete all of the necessary steps to export their goods without leaving the park.
- Best practices and success factors:
 - d. Shawan Park was marketed well across the globe and several advanced economies chose Panyu for setting up manufacturing units - Jewellery enterprises from USA, India, Japan, Canada, France, Belgium, Singapore, Malaysia, Hong Kong and Taiwan.
 - e. Providing dormitory services to business units within campus helped attracting young workers in Panyu with a safer and comfortable living condition. Other facilities like supermarket, canteen, basketball court, table tennis room were also provided as part of the project.
 - f. Provision of all the services under one roof (jewellery manufacturers, jewellery traders, jewellery brand companies, banks, logistics companies, manufacturing tool suppliers) to provide convenient operation to jewellery manufacturers and further lowering their cost of production and investment risk.

Figure 8. Shawan Jewellery Park, China and proposed Jewellery Park Scale Understanding







2.1.3 Grand Bazaar, Turkey

The construction of the Grand Bazaar began in 1455, to facilitate growing commerce in the port city, by means of textile and jewelry trading. It is one of the largest and oldest covered markets in the world, also considered as the first mall of the world.

The complex structure of the Grand Bazaar has evolved over the centuries. Today, the Grand Bazaar is spread across an area of 75 acre with a section covered by roof of nearly 40,000 square meters and area of 30,700 square meters. The bazaar has 22 gates, 60 odd streets, 4,000 shops (cells) and around 2,500 jewelry production units and shops employing up to 30,000 workers.

The jewelry sector in Turkey has developed globally within the past two decades. Majority of jewelry production takes place in Istanbul within the district of the Grand Bazaar and in the clusters of workshops around the complex known as 'Khans'. The Grand Bazaar and the Khans around it operate on a network-based model of clustering that has endured since the fifteenth century. The structure of the jewelry sector is largely based on micro firms which employ less than 10 employees. The Grand Bazaar is the only center of jewelry production in Turkey which relies on such structure which could be characterized as a cluster.

Today, the craft-based traditional form of jewelry production has become an evolving sector and taken on as an important commercial character. With the progress of computer technologies, traditional handmade jewelry production techniques are shifting towards machine-based production.

Over the centuries, Grand Bazaar has withstood fires, earthquakes and has now become vulnerable because of the modifications done by property owners, changing its structure, also leading to roof leaks, bad lighting and air conditioning. The bazaar also saw a damage to its structure when it hosted a movie scene of the movie 'Skyfall' and recent violent terrorist attacks. The project is planned to undergo a major restoration totaling USD 25 million. Phase-wise restoration started with the roof



repair in 2016 which got completed in 2019, costing USD 4.9 million. The subsequent restoration phases will resume as soon as the economy is back on track post COVID-19 pandemic.

Location	Fatih District, Istanbul, Turkey
Project Cost and Time	Established in 1455 as manufacturing unit, to facilitate growing commerce in the port city.
Project Proponent	Private Proponent - Various associations of Grand Bazaar
Area	75 Acre
Infrastructure	4000 shops; 2 bedesten (covered markets); 2000 rooms for accommodating travellers; 1 hammam (common bathhouse); 10 educational institutions; 24 Han (hotels), Khans (manufacturing unit)
Employment	30,000
Common Facilities	Istanbul Gold Refinery, LBMA accredited refineries (large and small), Borsa Istanbul (BIST)

Table 5. Project Details of Grand Bazaar, Turkey

- Development concepts and segments/ components: Grand Bazaar was built to facilitate growing commerce in the port city through textile and jewelry manufacturing and trading. The bazaar includes jewelry production workshops, jewelry stores, wholesalers, retailers and exporters.
- Infrastructure availability: The bazaar spans across an area of 75 Acre, including 2 bedestens with approximately 4,000 shops of 100 sqft in size, Khans which house most of the industrial units in the periphery of the bedestens, 24 hotels and 10 educational institutions. Manufacturers have shops in Grand Bazaar and manufacturing units covering area of 35,000 square meters in Istanbul.
- Ancillary components: BIST is responsible for licensing gold importers and assayers. Gold traded on the Exchange is tax-free. The support services to the industry include banks, hotels, showrooms, shopping centers and recreational facilities.
- **Target market:** The target market for is jewelry traders, wholesalers, jewelry showrooms, exporters, tourists and local buyers.



- Occupancy/ Absorption levels, Pricing: All the shops at the Grand Bazaar are already been sold and they are run by family generations as the bazaar was constructed centuries ago. Rent ranges in between USD 2,000 - 3,500 per square meter.
- Government's role in the project (incentives / policy aspects): While 92 percent of the Grand Bazaar belongs to the shopkeepers, the Grand Bazaar Association holds 8 percent. Shopkeepers are expected to cover 90 percent of the restoration budget, with 20 million liras(INR 187.69 million) in funding from the Fatih Municipality. The management board and governorate spent about 30 million liras (INR 281.53 million) for the restoration.
- Best practices and success factors:
 - g. The Grand Bazaar attracted over 90 million visitors in 2014 and it welcomes up to 400,000 people a day and takes pride in being the world's most visited destination. Hotel provision for tourists help them staying and exploring the market which supports jewellery businesses.
 - h. Family businesses thrive in the market, with future generations earning livelihood for their families in a close nit handmade jeweler community. Artisan and jeweler associations keep taking initiatives for betterment of the respective communities.
 - i. Other facilities like shopping centers, cafes, fountains, mosque, mausoleum, and other recreational activities keep workers as well as tourists entertained.
 - j. Presence of the complete support ecosystem in the vicinity (jewellery manufacturers, traders, wholesalers, exporters, refineries, jewellery brand companies, banks, logistics, raw material and tool suppliers) for smooth operations of jewellery manufacturers enabling them to lower their costs of production and achieve maximum sales.



Figure 9. Grand Bazaar, Turkey and Proposed Jewellery Park Scale Understanding






2.2 National best practices benchmarking

2.2.1 Surat Diamond Bourse, Gujarat

The SDB Diamond Bourse would be India's second diamond trading hub based at Surat, Gujarat, spread across 35.54 acre with availability of 66 lakh Sq.ft. built up area encompassing 4,000 offices for national & international traders. The Surat Diamond Bourse (SDB) is a not for profit organization promoted by SDB Diamond Bourse, a company registered under section 8 of the Companies Act, 2013 and formed for the establishment and promotion of Diamond Bourse at Surat, Gujarat.

Location	Surat, Gujarat, India				
Project Cost and Time	INR 2400 crore; Completion in 2022				
Project Proponent	Private Proponent - Surat Diamond Bourse is a company floated for the bourse development. SDB construction was awarded to PSP Projects Pvt. Ltd.				
Area	151.52 Acre; 81.9 m Height				
Infrastructure	9 towers of 15 floors structure; Interconnected towers with ~4,200 office units.				
Common Facilities	Independent Custom Office, International Banking Facilities, Insurance company, Safe deposit vaults, Diamond testing laboratories, Online trading				
Employment	1,50,000				

Table 6. Project Details of Surat Diamond Bourse, Gujarat

Connectivity: Surat Diamond Bourse is well connected to the road, highways, railways, airports. Details of the facility with distance from the unit are as under:

No.	Particular	Description	Distance (km)	Direction
1.	Nearest National Highway	NH-288, SH-168	6.59, 1.23	NE N
2.	Nearest town	Surat	7.54	NNE
3.	Nearest Airport	Surat	5.63	WNW
4.	Nearest Railway station	Bhestan	7.13	E

Development concepts and segments/ components: Surat Diamond Bourse is a company floated for the bourse development. SDB construction was awarded to PSP Projects Pvt. Ltd. SDB is being developed as part of Diamond Research and Mercantile (DREAM) project undertaken by Government of Gujarat. The 2,000-acre DREAM project will not only consist SDB, but will also have numerous landmark buildings, office buildings, exhibition areas, educational institutions, private and nationalized banks. The project received expression of interest from members of SDB during Vibrant Gujarat summit and a formal proposal was submitted to Government of Gujarat.

- Infrastructure availability: Spanning across 151.52 Acre, Surat Diamond Bourse comprises of 9 towers of 15 floors structure, incorporating 4,200 office units, which are interconnected. It also facilitates Independent custom office, international banking facilities, insurance company, safe deposit vaults, diamond testing laboratories and online trading inside the bourse. As part of Surat Dream City, the bourse envisages to act as the heart of business district and an incubator by attracting regional development with allied civic amenities such as hospitals, sports complexes, five-star hotels, convention centres and educational institutes.
- Ancillary components: Surat Diamond Bourse incorporates Recreational Facilities, common Amenities i.e. Conference halls, Banquets and Restaurants, Kitchen & Dining space, meeting area; Security & Surveillance facilities like highly secured campus security check points at all entry and exits, CCTV surveillance, Control Rooms, public Announcement System, Under Car Scanners at Entry Gates.
- Target market: The target market of the park majorly covers diamond traders and merchants, Diamond Cutting and Polishing Units, Diamond trading units.
- Occupancy/ Absorption levels, Pricing: SDB Project cost is pegged at INR 2400 crore with scheduled completion by 2022. The park has been developed with help of 4,500 members paying advances on pre-defined instalments as per the area and no. of parking spaces. The estimated final cost of the offices would be in the range of INR 5,000-INR 6,000 per sq ft. for offices measuring 300 to 75,000 sq.ft. and the advance booking for offices at the token price of INR 600 per sqft has already been initiated in 2016. The expected annual business in future ranges from INR 90,000 crore to INR 2 lakh crore and it targets to generate employment of 1,50,000.
- Government's role in the project (incentives / policy aspects): Government of Gujarat has instructed local administration to provide all required support to SDB. All necessary clearances were expedited on behalf of Government. As Surat Diamond Bourse falls under SNZ - Special Notified Zone, SDB to pursue government to re-structure tax system.
- Best practices and success factors:
 - a. Surat Diamond Bourse creates an example for integrating high-density commercial architecture along with efficient climate-responsive design. The construction of world's largest office building follows the best ecological standards followed worldwide.
 - b. A green belt has been proposed to provide a barrier between the source of pollution and the surrounding areas.
 - c. The SDB accommodates all buyers, manufacturers and sellers under one roof.
 - d. The project site is located at a distance of 5.6 kms from Surat International Airport, making it convenient for international buyers to visit the park without getting into main city.



Figure 10. Surat Diamond Bourse, Gujarat and Proposed Jewellery Park Scale Understanding





2.2.2 Gem and Jewellery Park, Surat, Gujarat8

Gujarat Hira Bourse (GHB) Gem & Jewellery Park developed by GHB at Ichchhapore, Surat. GHB is a Company registered u/s 25 of the Companies Act 1956 of India. The project is spread across 100 hectares of land and relevant Infrastructure facilities like hi-tech convention centre, trading centre, roads, electric system, water supply network etc. Once complete, the project is expected to house more than 350 Gem & Jewellery export units doing business of around INR 35000 crore.

Location	Surat, Gujarat, India				
Project Cost and Time	INR 400 crore; Operational September 2014				
Project Proponent	Government Proponent - Gujarat Hira Bourse, a company registered u/s 25 of the Companies Act 1956				
Area	247 acre				
Infrastructure	350 Gems and Jewellery Export Units				
Common Facilities	Custom House, Import-Export Nodal Agency, Building for Banks, Trading Bourse, Precious Metal Store, Clearing Agent offices, Water Supply System, Sewerage Treatment, Storm Water Drainage Roads Network, Integrated Solid Waste Management, Electrification				
Employment	1,25,000				

Table 7. Project Details of Gem and Jewellery Park, Surat, Gujarat

- Connectivity: Gems and Jewellery Park, Surat is well connected with Surat Airport (8 Km), road connectivity through National Highway 6(E) and ONGC-Magdalla State Highway and 18 Km from Surat Railway Station. In terms of local access and connectivity, Gem & Jewellery Park has two accesses. Both are on the prime locations. Gate No. 1 has direct access from NH-6. Gate No-2 has direct access from Hajira-Adajan Road.
- Development concepts and segments/ components: It is Gujarat's first gems and jewellery special economic zone (SEZ) and accommodates a total of 365 plots, around 75 per cent falls in the SEZ and out of the 297 plots allotted in the combined SEZ and domestic tariff area (DTA).

⁸ Source: http://www.gujarathirabourse.org/

The park has been partially operational from 2014 and is expected to house 350 diamond and jewellery manufacturing units once fully functional.

- Infrastructure availability: With total area of 247 acre, Gujarat Hira Bourse (GHB), the implementing agency was allotted 100-acre land by the state government in 2004 to develop a Gem and Jewellery Park at Ichchhpore, Surat. Project spreads over an area of 9,68,172 Sq. m. and offers plot sizes ranging from 415 to 41,800 Sq. m. The central government denotified the SEZ Park at Ichhapore in 2014 following an application from the GHB office-bearers. The infrastructure facilities in the park include WTP, STP, storm water drainage. GHB has established 10 MLD Water Treatment Plant to provide drinking water to the Unit Holders. Members get 24*7 water supply in the park. It has its own 5 MLD Sewerage Treatment Plant with 0 discharge technology. The treated water generated from the same can be used in plantation/landscaping and industrial purposes. Members/Unit holders are in receipt of 24*7 electricity as well. The Park has its own 66 KV Switchyard to cater the quality power to the units of the Park.
- Ancillary components: Other amenities in the park include custom house, import-export nodal agency, bank and trading house. Gujarat Gas Ltd. has laid LPG Gas Pipeline also in the park area. GHB has established Optic Fiber Cable Communication Network based on GPON technology to facilitate members/Unit holders with best quality of internet and communication services.
- **Target market:** The target market of the park majorly covers diamond companies, Jewellery manufacturing units, Diamond polishing units.
- Occupancy/ Absorption levels, Pricing: Gems and Jewellery Park targets to generate employment of 1,25,000. Gujarat Hira Bourse will spend INR 85 crore for cluster development in the jewellery park. GHB will contribute INR 10 crore, while the remaining INR 10 crore would be raised from other sources.
- Government's role in the project (incentives / policy aspects): The Central Govt. grant of INR 50 crore has been allotted for the development of Gems and Jwellery park under the Industrial Infrastructural Upgradation Scheme (IIUS), while grant from Gujarat Industrial Development Corporation (GIDC) of INR 15 crore.
- Key inferences:
 - a. The project was conceived almost 15 years ago (2003-04) and around 350 units were proposed but even till today, the park has been occupied by only 15% organizations as in plotted land development, the owner of land is free to choose the establishment of units as per its requirements.
 - b. GHB was notified in 2007, but it failed to evoke good response from exporters to set up units. In addition, the adopted strategy of selling plotted land has not worked in the favour of park. The park is not fully functional and the establishment of entire value chain which was envisaged at the beginning of the project could not be established.











2.2.3 Gems and Jewellery Park, Ankurhati, West Bengal

West Bengal Industrial Development Corporation Limited (WBIDC) has set up Gems & Jewellery Park at Ankurhati, Domjur in Howrah district on 5.76 acres plot. The location is easily accessible from Kolkata and has sizeable concentration of skilled and semi-skilled artisans in surrounding areas. The project is developed as a combination of Domestic Units and Export Oriented Units.

Location	Ankurhati, Domjur, Howrah, West Bengal	
Project Cost and	INR 66 crore; Operational since 2	016
Time		
Project	Government Proponent - West Ber	ngal Industrial Development Corporation Limited
Proponent	(WBIDC). Ankurhati Gems and Jev	vellery Manufacturers Welfare Association (SPV)
	has been setup for operating and r	naintaining the park.
Area	5.76 Acres; G+5 storied	
Infrastructure	2 Standard Design Factory (SDF) I	buildings having 79 modules with super built up
	1 Common Facilities Building (CF	B) having 13 modules and super built up area of
	21,150 sq.ft. for common facilities	s.
Common	Independent Electricity Unit, Gold	Vault, Certification Centre, Design Centre with
Facilities	CAD/CAM, Clearing Agent Office	
Employment	1,50,000	

Table 8. Pro	oject Details	of Gem and	Jewellery Park,	Ankurhati,	West B	engal
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- Connectivity: The proposed Site for Gems and Jewellery Park is strategically located at Ankurhati, Domjur in Howrah district. The project is located near to the Gems and Jewellery cluster of Domjur and has proximity to NH-6 and NH-2. Ankurhati has a well-established road link to various cities of West Bengal like Kolkata, Howrah, Kharagpur and Durgapur. It is only 12 km from the Central Business District. The Airport is only 22 km away from the proposed site, which is connected through NH-6 and Belgharia Expressway. It ensures seamless transfer of raw materials and end product via Netaji Subhas Chandra Bose International Airport. Ankurhati is connected with major nearby town through Santragachi Railway Station, 5 km away from Site. It is connected with other important towns of India by Howrah Station which is only 9 km away.
- Development concepts and segments/ components: The project is developed as a combination of Domestic Units and Export Oriented Units. West Bengal Industrial Development Corporation Limited (WBIDC). Ankurhati Gems and Jewellery Manufacturers Welfare Association (SPV) has been setup for operating and maintaining the park. Total area of park is 5.76 Acres with two SDF A buildings comprising of G+5 storied having 31 nos. of module. The Total Park is divided into the following major sections:
 - a. Standard Design Factory (SDF A / SDF B) Building comprising each individual modules of sizes Large 3014.96 sq. ft./5505.96 sq. ft. / 5068.18 sq ft. (Super Built-up Area); Medium 2504.47 sq. ft. / 2534.09 sq ft. (Super Built-up Area)
 - b. The Administrative and Public Facilities Unit or Common Facilities Building (CFB)
 - c. Landscaped areas
- Infrastructure availability and Ancillary components: Common facilities planned in the park are Admin Office / Bank, Gold Vault, Certification Centre, Laser Engraving Centre, Cooperative Display Centre, Design Centre with CAD / CAM, Business Centre, Import-Export Nodal Agency, Clearing Agent Offices, Firefighting station, Security and Medical Centre. Other facilities park contains are restaurant, meeting room, training centre and Hallmarking Centre, etc. Out of this 1 module has already been booked for hallmarking centre and 3 modules have been handed over to the implementing SPV for conference hall, canteen and training purposes.
- **Target market:** The target market for Ankurhati Gems and Jwellery park is Jewellery manufacturing units and Jewellery shops.
- Occupancy/ Absorption levels, Pricing: Park offers various sizes of medium to large modules ranging between 2,504 sq.ft. to 5,506 sq.ft. of super built up area. These 2 Standard Design Factory (SDF) buildings having 79 modules have a total super built up area of 2,50,646 sq.ft. Another Common Facilities Building (CFB) having 13 modules has a super built up area of 21,150 sq.ft. for common facilities. Modules are offered on a 99-year leasehold model with an estimated lease premium of INR 2,825/sqft for the SDF buildings and INR 3,390/sqft for CFB building. At present, 42 Gems & Jewellery Manufacturing Units are on lease.
- Government's role in the project (incentives / policy aspects): With the jewellery park government is aiming to create around 1 lakh jobs per year. Government is inviting private players through various Business forums and summits to set-up their base in the state. As Bengal has a tradition of jewellery making, the State has the largest numbers of skilled artisansand goldsmiths in India. This will ensure presence of skilled artisans in park.



- Best practices and success factors:
 - a. The location is easily accessible from Kolkata and has sizeable concentration of skilled and semi-skilled artisans in surroundings which thereby makes the prospect of the project bright.
 - b. The Project is strategically located within the prime gold manufacturing cluster of the eastern region making it an enviable property.
 - c. The project houses domestic and export-oriented units, providing a one-stop shop.

Figure 12. Gems and Jewellery Park, West Bengal and Proposed Jewellery Park Scale Understanding



2.2.4 Zaveri Bazar, Mumbai

The Zaveri Bazar is one of the oldest and the largest wholesale market of Gold jewellery in Asia, built in the early 19th century. Over 60% of all gold trading and dealing happen at Zaveri Bazaar, Mumbai. It has around 8,000 to 12,000 manufacturing units currently operating in the area of approximately 247 acres. It specializes in the handmade jewellery manufacturing of traditional Indian designs, Kundan and Jadau work



and generates employment for lakhs of Karigars. The jewellery cluster is unorganized, however, due to the presence of the complete ecosystem, jewellers of Zaveri Bazar are able to produce world-class handmade jewellery.

The whole ecosystem is present within the area of 1 sq.km area including Zaveri Bazar, Kalbadevi and Bhuleshwar. Due to the popularity of the bazar and rising demand of handmade gold jewellery, the residential buildings in the vicinity were occupied by the jeweller community having ground floor for the shops and manufacturing units on the upper floors with Karigars residing in the same units and buildings.

The size of the units in Zaveri Bazar range from 150 sqft to 1,000 sq.ft. Smaller units can have 2-10 Karigars working inside the unit to 100-150 Karigars in the bigger Karkhanas. The output of bigger units can range from 50-75 kgs of gold jewellery per month. There are about 1000-2000 jewellers in Zaveri Bazar which supply jewellery to both domestic and international market. Mostly, jewellery is exported to UAE, USA, Singapore and Malaysia.

Location	Kalbadevi and Bhuleshwar, Mumbai, Maharashtra				
Project	Private Proponent - About 75% units rest are owned by occupants through Paghdi				
Proponent	system, Indian Bullion and Jewellers Association (IBJA)				
Area	247 Acres (1 square kilometre)				
Infrastructure	Up to G+4 building structures				
Common	Gold bullion, refineries, melting, hall marking, assaying, banks, raw material				
Facilities	suppliers, tool and equipment supplier, food suppliers				
Employment	4,00,000 (direct and indirect)				

Table 9. Project Details of Zaveri Bazar, Mumbai

- Connectivity: Zaveri Bazar has a very good connectivity by road and rail (Mumbai local). It has several bus stops in the periphery with cab service which can take you inside the bazar, however, due to narrow roads and high pedestrian flow, cab access also becomes restricted to a certain limit. Nearest local station is Masjid, 1 km away from the bazar.
- Development concepts and segments/ components: The area expanded over the period of years by consuming the residential area in the vicinity and converting into high value jewellery production and trading marketplace. The buildings have rooms of the size ranging from 100sqft to 1,000sqft, converted into jewellery shops, Galas, and Karkhanas.
- Ancillary components: Gold bullion, refinery, banks, police station, security cameras, restaurants, hallmarking centre, melting, hall marking, assaying, raw material suppliers, tool and equipment supplier, food 'Dabba' suppliers, security cameras and police station



- Target market: Zaveri Bazar is the largest wholesale market of gold jewellery catering to both domestic and international markets. Mostly, retailers are the main customers of the wholesalers and manufacturers.
- Occupancy/ Absorption levels, Pricing: Zaveri Bazar occupies a space of approx. 1 sq.km and it continues to expand even today, the reason, there are no boundaries and the bazar area cannot be demarcated on a map. There are up to 12,000 manufacturing units currently present in the bazar area. Due to the presence of complete ecosystem, comfort and ease of doing business, occupants try to purchase the premise rather than rent.

Up to 70% of the premises in Zaveri Bazar are bought by Paghdi system, remaining premises on rent are mostly occupied by support ecosystem such as shops, restaurants, food suppliers etc. Space for commercial and trading activities varies from INR 50,000 to INR 1,00,000 per sq. ft. People pay premium to purchase space in Zaveri Bazar. For manufacturing units on upper floors, price can go from INR 30,000 to INR 50,000 per sq. ft, which is also an indicative price as it completely depends on supply and demand.

Best practices and success factors:

- a. Presence of complete manufacturing ecosystem in the bazar. Jewellers at Zaveri Bazar have adopted Contract Manufacturing (job work) method for their jewellery production.
- b. Availability of support ecosystem facilitating smooth operations of the manufacturers and traders. Banks, raw material suppliers, tool and equipment suppliers, logistics provider, packaging and cataloging vendors etc. support the complete ecosystem.
- c. Since Zaveri Bazar is one of the oldest jewellery markets, it draws tourist attention, local / domestic buyers as well as international buyers for handmade gold jewellery.
- d. Availability of Karigars having expertise in various processes. Jewellers find it easy to collate and use their unique expertise to produce an exquisite piece of jewellery.

Figure 13. Zaveri Bazaar, Mumbai and Proposed Jewellery Park Scale Understanding





2.2.5 Bharat Diamond Bourse (BDB), Bandra Kurla Complex, Mumbai

BDB is located at Bandra Kurla Complex (BKC), Mumbai. It is the largest Bourse in the world. BDB in its 20 acres of land and total constructed area of 2 million sq. ft houses 2500 offices of various sizes in 9 interconnected towers. It generates an employment of approximately 60,000. There is no diamond manufacturing unit in BDB, only sales, marketing and trading activity of rough and polished diamonds happens at BDB.

Bharat Diamond Bourse is a Section 8 company with about 4,000 trade members in total. Bharat Diamond Bourse was founded in 1984 and the land for the project at BKC was acquired in 1991. Construction of the project started in 1993 and got completed in 2010. BDB holds 2,00,000 sqft of office space and 1,00,000 sqft on the ground floor for commercial and trading activities to be given on rent.

BDB represents prominently in the international industry associations such as World Federation of Diamond Bourses, the International Diamond Manufacturers' Association, World Diamond Council, the Kimberley Process and World Diamond Mark.

BDB houses customs office, clearing agents, commercial banks, insurance companies, gemological labs and facilities such as restaurants, stationery, travel agents, first-aid centre, parts and machinery shops etc. The rents collected from the facility providers is used for the maintenance of the BDB making it a self-sustaining ecosystem.

Location	Bandra Kurla Complex (BKC), Mumbai, Maharashtra				
Project Cost and	Approx. USD 150 million, operational since 2010				
Time					
Project	Private Proponent - Bharat Diamond Bourse				
Proponent					
Area	20 Acre				
Infrastructure	9 towers of 9 floor with 2 million sq. ft. area, underground parking, vaults, security and surveillance system, ETP				
Common	Customs office, clearing agents, commercial banks, insurance companies,				
Facilities	gemmological labs, restaurants, stationery, travel agents, first-aid centre				
Employment	60,000				

Table 10. Project Details of Bharat Diamond Bourse (BDB), Mumbai

Connectivity: BDD has an excellent connectivity by road, rail and airways. It has several bus stops in the periphery with cab service. There are 2 local stations nearby, Kurla station (2.5 kms) and Bandra (5 kms). Chhatrapati Shivaji Maharaj International Airport (Mumbai International Airport) is 12 kms away and takes 20 minutes to reach from BDB.



- Development concepts and segments/ components: The project has been developed by Bharat Diamond Bourse. Every person who owns an office in BDB, has contributed towards the construction and has been allotted 1 share per sq. ft. The 20-acre space was fully allotted and subscribed from day one.
- Infrastructure and Ancillary components: There are 9 towers in BDB with 9 floors each summing up to total area of 2 million sq.ft. The building has 2 level underground parking of 1 million sq. ft area, 4 vaults, strong rooms, 24x7 state-of-the-art security and surveillance system and an ETP. Other components include customs office, IDEX, clearing agents, banks, insurance companies, gemmological labs, restaurants, stationery, travel agents and first aid centre.
- **Target market:** Rough and polished diamond traders and diamond mining companies.
- Occupancy/ Absorption levels, Pricing: BDB holds 2,00,000 sqft of office space which they give on rent and 1,00,000 sqft of commercial space on the ground floor on rent. Rest of the space is occupied by 2,400 property members.
- Best practices and success factors:
 - a. BDB houses India Diamond Trading Centre (IDTC), a Special Notified Zone (SNZ) in tower D with a capacity of 10 rooms and conference halls for the purpose of rough diamond exhibition and auction. Mining companies book the rooms in advance and ask traders to come in for exhibition and placing orders. Bidding, auctioning and tendering is carried out in the SNZ but the sale of diamonds directly is not permitted currently.
 - b. Rough diamonds can only be traded in India with the participant countries of the Kimberley Process (KP). The KP ensures that the diamonds traded through its participant countries is conflict free. India trades with 54 KP countries out of the total 82. All the participating countries have to issue a KP certificate for trading of the rough diamond with the other countries. BDB issues a total of 20,000 KP certificates in a year out of the total 40,000, out of which 3,000 are for exports.
 - c. Presence of Customs office and clearing agents inside BDB is huge advantage for facilitation of diamond trading.
 - d. Vault facility ensures maximum safety of raw and polished diamonds. There are 4 vaults inside BDB, one for customs, one for miners for exhibition purpose and two for lockers of the traders and owners of BDB. Vault size of customs is 4,000 sq.ft. Other vaults are bigger in size and they house 15,000 lockers.
 - e. State of the art security and surveillance system. BDB has its own security, managed by a team of 500 people. It includes access controls, frisking, turnstiles, 3,500 camers, communication equipment, vaults, fire and medical security, electronic security, IT infrastructure, intelligence team and state of the are command centre, set up in an area of 10,000 sq.ft.
 - f. Location advantage: Major reasons attributing to the success of BDB is the presence of jewellery manufacturing units in SEEPZ Mumbai, Zaveri Bazar and other jewellery manufacturing clusters in Mumbai. For major mining companies of the world, direct flights to Mumbai makes it easily accessible. Proximity to Surat, Gujarat, world's largest diamond manufacturing city is also an added advantage.



Figure 14. Bharat Diamond Bourse, Mumbai

Figure 15. Trading Hall, BDB, Mumbai





Figure 16. Bharat Diamond Bourse, BKC, Mumbai and Proposed Jewellery Park Scale Understanding





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2.3 Government support to International/Domestic Gems and Jewellery Parks

Project		Government Support Provided
	Gold Souk Extension, Deira Al Ras, Dubai	Developed by Government - Ithra, Dubai LLC (real estate division of Investment Corporation of Dubai) across 169.21 acres as part of Deira Enrichment Project.
	Shawan Jewellery Park, Panyu, Guangzhou, China	Developed by Government support from Guangzhou City and Panyu district spread across 55.7 acres and received interest from not only domestic but international investors.
	Grand Bazaar, Fatih District, Istanbul, Turkey	 Restoration by Private Proponent - Various associations of Grand Bazaar, established since 1455 to facilitate growing commerce in the port city. 20 million liras funding from the Fatih Municipality, 30 million liras by the management board for the restoration. 92% Grand Bazaar belongs to the shopkeepers and 8% is held by Grand Bazaar Association.
	Surat Diamond Bourse, Khajod DREAM City, Surat Gujarat	Developed by Surat Diamond Bourse, a not for profit organisation at a cost of INR 2,400 crore and expected to get completed by 2022. Provision of government land admeasuring 151.5 acres as part of Diamond Research and Mercantile (DREAM) project.
	Gem and Jewellery Park, Ichchhapore, Surat, Gujarat	 Central Govt. grant of INR 50 crore under Industrial Infrastructural Upgradation Scheme (IIUS) and INR 15 crore grant from Gujarat Industrial Development Corporation (GIDC). Setup at a cost of INR 400 crore in 2014 by Gujarat Hira Bourse (GHB), registered u/s 25 of the Companies Act 1956 of India.
	Gem and Jewellery Park, Ankurhati, Howrah, West Bengal	Developed by Government - West Bengal Industrial Development Corporation (WBIDC) and Jewellery Manufacturers Welfare Association (SPV) has been setup for operating and maintaining the park. Established at a cost of INR 60 crore in 2016 on land area of 5.76 acres.



Market Assessment

3 Market Assessment

The chapter covers key market trends in the region and the catchment area to understand the demand supply dynamics. This chapters also covers a quick study of key government policy and support which can be utilized for development of the industrial park.

3.1 Enabling Policy and regulatory Framework

3.1.1 Review of Central and State Government Schemes

Scheme	Applicability to Gems and Jewellery Sector	Remarks
Micro and Small Enterprises Cluster Development Programme (MSE-CDP)	Yes	Applicable to Developer
Scheme of Fund for Regeneration of Traditional Industries (SFURTI)	Yes	Applicable to Stakeholder
Industrial Infrastructural Upgradation Scheme (IIUS)	Yes	Applicable to Developer with a ceiling of INR 50 crore. At present assistance is for on-going projects only and no new projects are accepted under this scheme.
Merchandise Exports from India Scheme (MEIS)	No	Ineligible category under MEIS
Foreign Trade Policy amended on 02 September 2019	Yes	ApplicabletoStakeholder.Reinstate duty-free gold and silverreplenishmentfollowinginternational fairs.
Export incentives for MSMEs - 1) Interest Equalization / Subvention Scheme (IES) - 5% 2) Credit Link Capital Subsidy Scheme for technology up gradation 3) Marketing Assistance Scheme 4) Advance Authorization Scheme 5) Export Promotion Capital Goods - Duty free imports	Yes	Applicable to Stakeholder
Policy of Industrial Parks comprising of flatted galas of Readymade Garment manufacturing, Gems & Jewellery, Micro-Electronics and Engineering Units - 2018 of Maharashtra	Yes	Applicable to Developer
New Industrial Policy 2019 of Maharashtra	Yes	Applicable to Stakeholder

Scheme	Applicability to Gems and Jewellery Sector	Remarks
SEZ Policy of Maharashtra	Yes	Applicable to Developer of project with minimum area of 10 Ha

3.1.2 Central Government initiatives to improve business ecosystem

3.1.2.1 Micro and Small Enterprises Cluster Development Programme (MSE-CDP)

The MSE-CDP an initiative by Government of India (GOI) and the Ministry of Micro, Small and Medium Enterprises, aims to address the small technical, skill, infrastructural, and financial issues faced by MSME, thereby improve the sector address the small technical, skill, infrastructural, and financial issues faced by MSME, thereby improve the sector. The objective of MSE-CDP is to setup Common Facility Centers (CFCs) and create support groups that would enhance the growth of MSME. The infrastructural aid would help both the new and existing entrepreneurs belonging to:

- Multi-story Factory Complex
- Power distribution network
- Water, road, banks, raw materials
- Telecommunication
- Drainage and pollution control facilities
- Stowing and publicizing outlets
- Common Service facilities
- > Technological and backup service outlets

Eligibility for MSE-CDP scheme: Any individual that is belonging to Manufacturing associations, entrepreneur's consortiums or groups can apply for entitlement of the system.

Salient Features of the MSE-CDP Scheme:

- Diagnostic Studies: Initially a clear examination shall be conducted on the activities of the business. To understand the strengths, weaknesses, opportunities, and threats. And thus, formulate a plan to succeed. The maximum cost of this would be INR 2.5 lakh.
- Soft intervention: Conducted in the form of awareness programs, counseling, creation of seminars and workshops, etc. A Maximum cost of INR 25.00 lakh, in combination with GOI 75% contribution of 75% for the general category. On the plus side, the special category contribution of GOI would be 90% and would be the same for clusters with more than 50% women/micro/village/SC/ST units.
- **Detailed Project Report (DPR)** is concerned with technical practicability and monetary viability
- Setting up Common Facility Centers (CFCs) for various business activities: Gol grants 70% with a maximum cost of INR 20 crore. 90% of assistance provided to special categories. Financial Guidance Provided to CFCs for Testing, Training, Research and Development, Seepage treatment, Raw material Storehouse, Accompanying Manufacturing Processes.



- Creation of Infrastructure Development Centres (IDCs)/Infrastructure Expansion: GOI grants 60% with a maximum cost of INR 15 crore. 80% assistance provided to special categories based on the requirements of the businesses.
- Marketing Hubs / Exhibition Centres by Associations: Gol grants 60% with a maximum cost of INR 10 crore. 80% of assistance provided to special categories
- **Thematic Interventions:** GOI grants 50% with a maximum cost of INR 2 lakh
- > Support to State Innovative Cluster Development Programme

3.1.2.2 Scheme of Fund for Upgradation and Regeneration of Traditional Industries (SFURTI)

The government initiated a Scheme of Fund for Regeneration of Traditional Industries (SFURTI) that would fund enterprises to regenerate traditional businesses diversified as Khadi, coir-based, and village industries by making them profitable, productive, and secure. The objective is to create clustersof the existing traditional enterprises to increase competitiveness and thus improve to perform better, provide sustainable employment, market access, and equipment's that assist the production and enhancement of the industry.

- > Organize technical and development programme.
- Promote e-commerce for marketing and the need for sustained investment in the sector that guarantees the growth of the economy.
- > Try to shift the product production to market-driven from supply-driven products.

Eligibility for SFURTI scheme: Any individual or MSME related to the three interventions are covered under the scheme. The organizations that are eligible to apply are as follows:

- Non-Government Organizations
- Central and State Government institutions
- Semi-Government institutions
- > Field Functionaries of the State and Central Government
- Panchayati Raj Institutions (PRIs)

Salient Features of the SFURTI Scheme: As mentioned, the scheme encompasses the three units and provides

- > Heritage cluster with 1000 to 2500 crafts person- approximately INR 8 crore.
- Major cluster with 500- 1000 workers- INR 3 crore.
- Mini cluster with around 500 workers- INR 1.5 crore.

The Focus of the Project:

Hard Intervention: This will encompass packaging, CFCs, Raw material Banks (RMBs), improvement of infrastructure, training, storehouse facility, processing of value-added goods. 75% of funding provided to hard interventions depending on the necessities of the scheme.



- Soft Intervention: This will focus on activities such as skill development sessions, awareness and motivation, training and technical exposure and formulating the plan to design and develop a product. 100% scheme funding given to Soft interventions of up to INR 25 lakh.
- Thematic Intervention: This mainly encourages to use the upcoming techniques that will elevate the industry's value. For instance, e-commerce, innovative marketing, research, and development initiations.
- A maximum of INR 20 lakh given to Executing agency.
- > 8% of the estimate provided to the Technical Agency.

3.1.3 Enabling policy framework in Maharashtra

3.1.3.1 Maharashtra Special Economic Zone Policy

To attract foreign direct investment, promote export and generate employment in the country, the State Government has announced a policy for setting up Special Economic Zone, vide G.R. dated 12.10.2001 and subsequently, Central Government has enacted SEZ Act, 2005. The SEZs, earmarked as duty-free enclaves, have a relaxed and business friendly policy regime, aimed at promoting rapid industrial development and employment generation.

- Exemption of all state and local taxes and levies for transactions with the SEZ and for supply from domestic tariff areas to the SEZ
- Exemption from stamp duty and registration fees
- Grant of labour and environment related permits and approvals through a dedicated single window mechanism
- > Permission to generate electricity for own consumption
- Expeditious process for land acquisition to set up SEZs
- > SEZ policy of Maharashtra provides attractive incentives as follows:
 - a. Hundred per cent exemption from Stamp Duty and Registration Fees
 - b. Permission for Captive Power Generation.

3.1.3.2 Gems and Jewellery Park Policy 2018

Key features of Policy of Industrial Parks comprising of flatted galas of Readymade Garment manufacturing, Gems and Jewellery, Micro-Electronics and Engineering Units - 2018:

- Units holding valid Udyog Aadhar Memorandum (UAM) / Industrial Entrepreneurs' Memorandum (IEM), manufacturing jewelry, cutting and polishing of gems, packaging production units will be designated as gems & jewelry units.
- > Maharashtra Industrial Development Corporation will be Special Planning Authority.
- Support services / facilities: Small retail shops not more than 1000 sq. ft. and the area not more than 5% of the total area for support services, · Commercial showrooms, training



institutes, common conference room for the units in parks, Residential apartments for workers within 20% of the total area for support services.

- Industrial Parks having a minimum built up area of 20,000 sq. ft. -minimum 80% area for gems& jewelry and maximum 20% area for support services.
- > 200% additional floor space index with 15% premium on ready reckoner rate.
- Electric Supply at Industrial Rate: 24 X 7 continuous power supply will be given through expressfeeder.
- Common Facility Center: 75% of the expenditure incurred for credit rating, subject to a ceilingof (to be given one time) of INR 40,000.

3.1.3.3 New Industrial Policy 2019 of Maharashtra

Key highlights of new industrial policy of Maharashtra 2019 are:

- > Export oriented MSMEs eligible for 100% electricity duty exemption
- Promoting MSMEs through Public Funding, fiscal incentives, cluster promotion and Institutional support
- Fiscal Assistance for attracting high tech as well as employment generating units and mega projects
- Creation of Critical Infrastructure Fund (INR 1000 crore)
- Financial assistance for establishing Industrial parks
- State Goods & Service Tax (SGST): Investment Promotion subsidy of SGST paid for first sale within the State 1) MSME 100% of Gross SGST 2) LSI 50% of Gross SGST 3) Special LSI 40% of Net SGST 4) Customized incentives will be given to mega /ultra-mega projects.
- Employment Generation Incentives: Employment criteria based Large Scale projects shall maintain the qualifying direct employment throughout the year and 80% of such employees should be local persons.
- > The industrial area is eligible for incentives categorized in Group A (as per PSI 2019)

Industry Categorization	Min. FCI (crore)	Min. Direct Employment	Ceiling as % of FCI	Eligibility Period (Yrs)
MSME & Small Projects	MSME units with FCI of upto INR 50 crore	NA	-	-
Large	750	1000	25%	7
Mega	1500	2000	50%	10
Ultra-mega	4000	4000	Customised	Customised



3.1.3.4 Analysis of RERA rules and compliances applicable to the project

Provisions of RERA Act, 2016 Are Not Applicable on Industrial Units/Projects in India. The content of a sample case is provided below as a general guide to the subject matter.

- The Maharashtra Real Estate Regulatory Authority, Mumbai ("RERA Authority") in the matterof Techno Dirive Engineer Private Ltd. v. Renaissance Indus Infra Private Ltd. (Complaint No. CC006000000078620) ("Compliant") has, inter alia, held that the provisions of the Real Estate (Regulation and Development) Act, 2016 ("RERA Act") shall not be applicable on industrial units/ projects.
- The question for determination before the Ld. RERA Authority was whether RERA Act applies to Industrial Units/projects.
- The Ld. RERA Authority, after taking into consideration the terms of the agreement entered between the complainant and the respondent and various documents placed on record by thecomplainant, concluded that the complainant had booked the units for setting up their industrial manufacturing units and hence, the booked units are industrial units.
- The Ld. RERA Authority then went on to analyse "real estate project" provided in section 2(zn)of the RERA Act, 2016 and held as under:
- "8. After perusing this definition, I find that the apartments, plots or buildings are included inthe definition. Since the industrial units do not come into the definition of apartment as discussed above, I find that the building consisting of industrial units or part thereof will not amount to Real Estate Project defined by RERA."
- With the aforesaid observations, the Ld. RERA Authority held that the provisions of RERA Act,2016 are not applicable on industrial units.

3.2 Market Trends

3.2.1 Market trends and drivers

- The Mumbai office market recorded a decline of 12% YOY in leasing volume with about 4.9 million sqft (0.47 million sqm) of gross absorption in 2017. Andheri, Navi Mumbai and Bandra Kurla Complex (BKC) remained the most active micro markets in terms of leasing volume with 25%, 20% and 16% shares of total leasing, respectively. While affordable rents drove the demand for Navi Mumbai and Andheri, BKC remained popular among occupiers looking for premium Grade A offices.
- The bulk of the demand to stay concentrated in western suburbs and peripheral locations such as Andheri and Navi Mumbai over the next three years. However, BKC should remain the most sought-after office destination among occupiers looking for premium office space.
- With new supply of about 9-10 million sqft (0.8-0.9 million sqm) over the next three years resulting in the total stock of the Mumbai market growing by under 10%. Most of the new supply will remain concentrated at Thane-Belapur Road in Navi Mumbai and western suburbs such as Andheri, Kurla, Malad and Goregaon. Micromarkets such as Central suburbs and south markets are likely to have negligible supply addition over the next three years. Limited supply to keep



upward pressure on rents in Grade A buildings while rents in Grade B expected to remain under downward pressure. 3-5% YOY increase in average city rents expected in next 3 years.

- Previously, the occupiers were reluctant to move to Navi Mumbai, as large percentage of their employees were residing in western suburbs and due to poor connectivity, the employees were reluctant to travel to Navi Mumbai. Over the years, as the markets of Navi Mumbai and the Central Suburbs developed into residential catchments, occupiers now have started moving to Navi Mumbai.
- Rental affordability remained one of the positives for Navi Mumbai, but IT/ITeS companies which required large spaces at one location, preferred other cities like Bengaluru, Hyderabad, Pune, NCR and Chennai over Navi Mumbai.
- However, on standalone basis, Navi Mumbai has better infrastructure than Mumbai, traffic is streamlined wider roads, proper town planning, good utility infrastructure, efficient bus network, and well-planned railway stations/network offering connectivity to entire Navi Mumbai.
- Earlier, Navi Mumbai used to lack connectivity to the main city through roads and MRTS. But, with the upcoming major infrastructure projects such as metro lines, sealink, trans-harbour railway line and upgraded harbour railway line, the connectivity issues would be resolved. The new Navi Mumbai airport will further increase the office activity in Navi Mumbai.
- > Existing supply scenario in Gems and Jewellery parks in and around Mumbai:
 - a. **SEEPZ, Andheri:** 110-acre Land Area; 295 Total units (168 Gem & Jewellery unit + 66 IT software units + 28 IT Hardware units + 33 Trading units)
 - b. **BDB, BKC:** 20-acre Land area; 3200 Total units (100% occupancy); 700 premises owned by BDB for lease and renting
 - c. **MIDC, Mahape:** 650-acre Land Area (100% occupancy); New space unavailable, only forfeited and resale plots available

3.2.2 Market Assessment for Pricing determinants

Ready reckoner rates (minimum rate notified by the Government of Maharashtra) for registration of property transactions were last hiked on 1st April 2017 and has remain unchanged for FY2019 - 20. State Government issued the Ready Reckoner rates for the FY 20-21. The ready reckoner rates of locations in Mumbai having key jewellery clusters and locations in Navi Mumbai surrounding the project area are provided in the table below.

Ready reckoner rates in Maharashtra FY 2019-20 (INR per sqft)								
Location	ocation Locality Land Residential Office Shop Indu							
Mumbai	Bhuleshwar (Zaveri Bazaar)	11,669	20,346	28,791	35,851	20,346		
	Andheri (East) MIDC	8,835	14,614	16,555	31,420	14,614		
	Dadar (West)	8,510	16,202	20,550	30,825	16,202		



	Lower Parel	21,154	37,319	42,429	52,165	37,319
	Bandra (BKC)	15,506	25,400	30,416	38,694	25,400
	Dahisar (East)	2,917	7,023	9,327	12,152	8,175
Navi	Ghansoli	2,573	5,862	7,256	8,696	7,256
Mullibal	Mahape MIDC	1,951	4,580	5,574	6,977	5,574

Market assessment of indicative Purchase and Rent price for Shop, Office and Industrial space in Mumbai and Navi Mumbai (project area) are established based on primary research and provided below.

The project area Mahape MIDC provides for competitive and favourable prices compared to other locations in Mumbai with existing jewellery clusters.

	Ma	rket Asses	sment for Pri	cing (INR	per sqft)			
Location	Locality	S	Shop	0	ffice	Industrial		
		Rent	Purchase	Rent	Purchase	Rent	Purchase	
Mumbai	Bhuleshwar (Zaveri Bazaar)	300	55000	410	45000			
	Andheri (East) MIDC	160	46000	150	35000	90	18000	
	Dadar (West)	210	50000	180	40000	115		
	Lower Parel	200	58000	280	46000	110	20000	
	Bandra (BKC)	120	56000	350	45000	85		
	Dahisar (East)	60	25000	90	32000	60	15000	
Navi	Ghansoli	55	30000	60	16000	35		
Mumbai	Mahape MIDC	65	35000	65	7000	55	11000	

The rates identified through primary survey in the existing parks in near vicinity of project are:

- > Residential Property in Kopar Khairne and Ghansoli area:
 - d. 1RK (270 sqft carpet / 370 sqft built up)- INR 8,000
 - e. 1BHK (400 sqft carpet / 550 sqft built up)- INR 12,000 to 15,000
- Commercial Property in Mahape and Kopar Khairne area: Purchase price: 225 sqft carpet INR 70 lakh
- Office Space in Mahape area: Loading in Millenium Business Park ranges in between 20-30% and in rest of the Mahape area depends on the builder, usually 30-40%.
 - a. Purchase price:



- i. 500 sqft carpet / 800 sqft built-up INR 50 lakh ~ (INR 10,000/sqft carpet, INR 6,250/sqft built-up)
- ii. 900 sqft carpet / 1,300 sqft built-up INR 75 lakh ~ (INR 8,300/sqft carpet, INR 5,769/sqft built-up)
- iii. 1,900 sqft carpet / 2,600 sqft built-up INR 1.35 crore ~ (INR 7,100/sqft carpet, INR 5,200/sqft built-up)
- iv. 1,900 sqft carpet / 2,600 sqft built-up (furnished) INR 1.60 crore ~ (INR 8,400/sqft carpet, INR 6,150/sqft built-up)
- Industrial Gala in Mahape area:
 - a. Purchase price: Average INR 5,500/sqft built-up, with loading of 20-30% in Millenium Business Park, Mahape and 30-40% in Electronic Zone and other areas of Mahape, depending on the builder/developer
 - b. Rental price:
 - i. INR 50-120/sqft built-up in Mahape.
 - ii. INR 30-80/sqft built-up with upto 40% loading in Taloja.
 - c. Market price: In Mahape, for rent, the price for an industrial gala ranges between INR 50-120 per sq. ft, depending on location. For purchase, it depends on the legalities of plots/buildings, facilities provided and location, usually it varies between INR 5,000 to 12,000 per sq. ft.
- In Millennium Business Park (MBP), Mahape, which has been developed as an IT park, also has some industrial galas. The calculation is done on built-up area and the purchase price of an industrial gala (600-700sqft) can go upto INR 1 crore (upto INR 14,000 per sqft). For rent, the price for an industrial gala satrts from INR 50,000 and goes upto INR 1 lakh (INR 70-150 per sqft) depending on the location.
- In Electronic Zone Mahape, for rent, the price for an industrial gala ranges between INR 50-150 per sqft, depending on location. For purchase, it depends, as a lot of companies have gone sick and their plot/building sale price will vary, usually it varies between INR 11,000 to 15,000 per sqft depending on location.



3.3 Stakeholder Consultations

3.3.1 Identified Jewellery Manufacturing Process Stakeholders

Process	Exploration	Production	Refining	Bullion trade	Jewellery Fabrication		Distribution	Usage	Recycling
Output	Ore	Doré	Bullion		Hand-made	Mechanized	Jewellery		Scrap
Gold Jewellery Manufacturing Stakeholders	 Miners Heavy machin ery operato rs 	 Blower Cleaner Processor Electrolyti c process Expert 	 Chemical process expert Caster Workers Millers and Filers Quality control expert Assayer 	 Bullion Banks Central Banks Metals Exchang es Export house 	 Jewellers Melter and refiner Designer and CAD/CAM expert Karigar - Filer and Framer Cleaner and Polisher Gemstone Setter Finisher - Polishing / Rhodium Quality control expert 	 Jewellers Designer and CAD/CAM expert Wax model and Rubber mould expert Wax setter and Casting expert Filer and Polisher Gemstone Setter Finisher and Plater Quality control expert 	 Wholesa lers Retailers Salesper son Logistics Security 	1. Consu mers	 Consumers Pawnbrokers Scrap dealers Jewellery fabricators

Table 11. Gold Jewellery Manufacturing Stakeholders

Feasibility Report - Gems and Jewellery Park in Mahape, Navi Mumbai

Process	Exploration	Production, Processing, Sorting	Rough diamond trading	Diamond manufacturing	Polished diamond trading	Jewellery fabrication	Distribution
Output	Kimberlite ore	Rough diamond		Polished diamond		Studded Jewellery	
Diamond Jewellery Manufacturing Stakeholders	 Miners Heavy machinery operators 	 Crushing and Milling machine operators DMS process expert X-ray machine operator Workers - Separators 	 Direct sellers Exhibitors Logistics Security Quality control Testing Laboratory 	 Assorter Marker, Sawing and Cutting operator Planner and Plotter Bruter, Die fixer and Laser operator Die fixer, Faceting and Polishing operators Boiling personnel Quality control expert 	 Wholesalers Traders Jewellers Security Quality control Testing Laboratory Logistics 	 Jewellers Designer and CAD/CAM expert Wax model and Rubber mould expert Wax setter and Casting expert Filer and Polisher Diamond Setter Finisher and Plater Quality control expert 	 Wholesale rs Retailers Sales and marketing personnel Logistics Security

Table 13. Gemstone Jewellery Manufacturing Stakeholders

Process	Exploration, Sorting	Production, Processing	Rough gemstone trading	Gemstone manufacturing	Polished gemstone trading	Jewellery fabrication	Distribution
Output	Ore	Rough gemstone		Polished gemstone		Studded Jewellery	
Gemstone Jewellery Manufacturing Stakeholders	 Miners Heavy machinery operators Optic sorting workers Acid wash operators 	 Crushing and Drilling machine operator High pressure water cleaner Resin expert High pressure drier operator Rough cutting and sawing operator 	 Wholesalers Traders Jewellers 	 Gemologist / Assorter Sawing and Cutting operator Shaping operator Faceting and Polishing operator Quality control expert 	 Wholesalers Traders Jewellers Security 	 Jewellers Designer and CAD/CAM expert Wax model & Rubber mould expert Wax setter and Casting expert Filer and Polisher Gemstone Setter Finisher and Plater Quality control expert 	 Wholesale rs Retailers Sales and marketing personnel Logistics Security

3.3.2 Primary Survey of Stakeholders

The Stakeholder consultations were done with members of Gems and Jewellery Export Promotion Council (GJEPC), Gold Jewellery manufacturers, Diamond/Stone Studded Gold Jewllery manufacturers and Ancillary services Stakeholders. Physical Site visit to 12 companies covering a spectrum of big and small jewellery players for understanding the value chain and stakeholder consultations - AR Gold, Kama Schachter, Asian Star Jewellery, KBS Creations, Trident Jewels, Zar Bangles, Priority Jewels, Vasupati Jewellers, ShineShilpi Jewellers, SK Seth Jewellers, Muskan Jewellers and SR Vishwas Gold. Detailed minutes of meeting are attached in Annexure 1.

An online google survey form was prepared for Gems and Jewellery stakeholders to cover a broad spectrum of stakeholders. <u>https://forms.gle/7pnCudgRFCSLGHUF9</u>

Online survey was conducted for stakeholder consultation and responses were received from 63 stakeholders. 61 Jewellery Stakeholders and 2 Ancillary Stakeholders (Tools and Die Cutting units in Zaveri Bazar) responded to the survey providing insights on their requirements and expectation from the proposed jewellery park.

- Respondents Jewellery Segment:
 - f. Majority of the respondents i.e.64% are manufacturers of gold Jewellery (Plain Gold and Handmade Gold Jewellery).
 - g. 36% of the respondents are manufacturer of Mechanized Studded Gold Jewellery.
- ► Type of ownership:
 - a. 78% of the respondents own the manufacturing unit premises.
 - b. 16% of the respondents have rented the manufacturing facility and 6% are on Paghadi system.
- **Employment in Jewellery Units:**
 - a. 57% of the units are small scale jewellery units and employ upto 50 persons. 25% manufacturing units employ 50-100 persons.
 - b. Only 13% of the units employ more than 250 persons.
- Top five Infrastructure issues faced by the jewellery manufacturing industry are -Security, Parking, Unavailability of ETP plant, Commute and Power Supply.
- Key trade related challenges faced are Regulatory compliances, Logistics and transportation, Customs.
- > Willingness to move to the proposed Jewellery Park:
 - a. 77% of the respondents are positive and have shown willingness to move to the proposed jewellery park while 13% are not keen.
 - b. Remaining 10% of the respondents are positive but would be following the early movers after observing the trends.



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- Requirement of Dormitory facility for Karigars: 62% of the respondents require a dormitory facility inside or in near vicinity of the proposed jewellery park for Karigar accommodation.
- Indicative requirement of Land / Built-up Space in the proposed park:
 - a. 62% of the respondents have shown interest in purchasing Built-up area and 36% prefer purchasing land parcel. Remaining 2% prefer renting builtup space in the jewellery park.
 - b. Indicative sizes of Built up space required by respondents are 3000-4000 sqft; 10,000 sq. ft.; 15,000 sq. ft.; 20,000 sq. ft., 40,000 sq. ft.
 - c. Land requirement varies from 5,000 sq. ft. to more than 15,000 sq. ft.
- Preferred Cost for Purchasing Space per Square Feet (Sq. ft.): Majority of the respondents are comfortable with the market rate of INR 5,500 / sq. ft. and 17% are willing to pay a premium of upto INR 10,000 / sq. ft.
- Willingness to pay upfront amount of about 30-40% for project development for the tenure of about 2 years:
 - a. 45% of the respondents are positive and are willing to pay upfront of 30-40% of the project development cost.
 - b. 7% are comfortable for a lenient instalment plan and 13% will be late bloomers.
- **Common Infrastructure Facilities Envisaged in the Jewellery Park:**
 - a. Top 6 Common Infrastructure Facilities envisaged in the Jewellery Park are Business Center, Exhibition Center, Vault facility, Common Effluent Treatment Plant (CETP), Training Center and Hotel.
 - b. Other infrastructure amenities envisaged in the proposed park are Medical Center, Stay for Karigars, Manufacturing support like Laser Center, Halmark Center (Hallmarking and Certification agencies), Metal Change facility, Cheap and Healthy Bengali food, Inscription Center, Color Stone Vendors, Photo and Video Graphers, Packaging Companies, Tar Pullers, Contract Casters, Contract Rhodium facility, Wax Setters, Designers, CAMFacility, Stone Craftsmen, Customs, Logistics, Canteens, Chemical and spare vendors, Industrial lifts, Equipment and spare vendors, Security, Commute options, Refinery, Gas Pipeline, Scrubbers, Gas banks, Banks, Bullion market, Export house, Recreational activity area, Vastu compliance, Catalogue supplier, raw material and Tool vendors and suppliers, Melting, Die shop, Public transport for staff, Restaurants etc.



Feasibility Report - Gems and Jewellery Park in Mahape, Navi Mumbai



Employment in Jewellery Manufacturing Units





Key Infrastructure issues faced by Jewellery Manufacturers



- Power Supply
- Water Supply
- Sewrage and Effluent Treatment
- Security
- Commute
- Parking
- Inadequate infrastructure
- No issues

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Preferred Cost for Purchasing Space per Square Feet



- Minimum (INR 1,000 to 3,000 per sqft)
- Market rate (upto INR 6,000 per sqft)
- Premium (Above INR 6,000 per sqft)
- Unaware of pricing





Common Infrastructure Facilities Envisaged in the Jewellery Park





Company	Product	Type of land ownershi p	Productio n	Employment	lssues	Willingnes s to move to Park	Accommodatio n facility for workers	Current factory size	Willingnes s for advance payment	Common Facility Centre requirements	Other requirements / suggestion
AR Gold	Gold Chain	Owned	1500 kg/ month	400		NA	Yes, hired buildings for workers	1,00,000 sqft (factory size)			Building height 6 floors, industrial lift for heavy machinery (upto 3 ton)
Kama Schachter	Diamond Studded Jewellery	Owned	500 pieces/da y	400		Yes	No	36,000 sqft (factory size)	Yes	Customs, Logistics, Vaults, Exhibition / Training / Multi-purpose rooms, Canteen, ETP, Scrubber, Refinery	Chemicals and machine tool / spare part vendors
Asian Star Jewellery	Dialmond Studded Jewellery	Owned	70 kg/ month	500	Parking	Yes	No	25,000 sqft (factory size)	Jewellery Product	Business Center, Security, Hotel, Logistics, Vault, Courier, ETP, HVAC, Industrial lifts, Commuting, Packaging, Equipment and	Building load capacity should be high for heavy machinery

Table 14. Inferences drawn from Physical site visit to Stakeholders



Company	Product	Type of land ownershi p	Productio n	Employment	lssues	Willingnes s to move to Park	Accommodatio n facility for workers	Current factory size	Willingnes s for advance payment	Common Facility Centre requirements	Other requirements / suggestion
										spare vendors, Parking	
KBS Creations	Diamond Studded Jewellery	Owned	50 kg/ month	650		Maybe	No	25,000 sqft (factory size)		ETP, Scrubber, Chemical and spare vendors	Labour accommodatio n and commute, Personal refinery
Trident Jewels	Mangal sutra	Owned		90	BMC & Fire dept NOC, Complex near residenti al area	Yes, only if every stakeholde r moves, 5,000 sq. ft	No	3,000 sqft (Gala)	No, only if park is at completion stage or all stakeholde r shift	Scrubber, Security, Refinery, Multi- purpose room for photography and meetings, Logistics	Gas pipeline or cylinder space (LPG)
Zar Bangles	Gold Bangles	Rented		300	BMC, Complex near residenti al area	Yes	No	12,000 sqft (plot size)	Deferred payment preferred	Banks, Market Bullion, Export house, Logistics, ETP, Scrubbers, HVAC, Club house or recreational activities, Security, Canteen, STP, Tool and raw	Gas pipeline or cylinder space (Argon), Air compressor, Buildings should be Vastu Compliant, Plumbers, Electricians

Company	Product	Type of land ownershi p	Productio n	Employment	lssues	Willingnes s to move to Park	Accommodatio n facility for workers	Current factory size	Willingnes s for advance payment	Common Facility Centre requirements	Other requirements / suggestion
										material vendors	
Priority Jewels	Diamond Studded Jewellery	Owned	50 kg/ month	400		Yes	No	10,000 sqft (plot size)	Yes	ETP, Scrubber, Refinery, Gas banks	Affordable housing facility near jewellery park, Height of ceiling to be restricted to 9- 10 ft, Industrial complex to be limited to 6 floors
Vasupati Jewellers	Handmad e Gold Jewellery	Owned		Contract manufacturin g	BMC & Fire dept NOC, Complex near residenti al area	Yes	Yes	1,000 sqft (office space). Contract manufacturin g	Yes	ETP, Scrubbers, Gas pipeline, Refinery, Parking, Hotel, Dormitory, Canteen, Recreational activity area, Helipad	All contract manufacturing vendors should be present in the jewellery park, Vastu compliance, Tourist and Education centre


Company	Product	Type of land ownershi P	Productio n	Employment	lssues	Willingnes s to move to Park	Accommodatio n facility for workers	Current factory size	Willingnes s for advance payment	Common Facility Centre requirements	Other requirements / suggestion
SK Seth Jewellers	Handmad e Gold Jewellery	Owned	40-45 kg/month	400 (Contract manufacturin g)	BMC & Fire dept NOC, Complex near residenti al area	Yes	Yes	500 sqft (office space). Contract manufacturin g	Yes, will see business viability between purchasing and renting space	Security, ETP, Scrubber, Refinery, Die shop, Hall marking facility, IT infrastructure, Space for multi-purpose use, Dormitories, Canteen, training halls	Vastu compliance, Catalogue supplier
Muskan Jewellers	Handmad e Gold Jewellery	Owned	Based on job work received	25	BMC & Fire dept NOC, Complex near residenti al area	Yes	Yes	900 sqft (factory size)	No. Until whole ecosystem shifts, then will think of shifting	Scrubber, ETP, Dormitories	All contract manufacturing vendors should be present in the jewellery park, Incentives from government
SR Vishwas Gold	Handmad e Gold Jewellery	Rented	Based on job work	10	BMC & Fire dept NOC, Complex near residenti al area	Yes	Yes	280 sqft (factory size)	No. Until whole ecosystem shifts and there is guarantee of job	Dormitories	All contract manufacturing vendors should be present in the jewellery park, guarantee of job work from

Company	Product	Type of land ownershi p	Productio n	Employment	lssues	Willingnes s to move to Park	Accommodatio n facility for workers	Current factory size	Willingnes s for advance payment	Common Facility Centre requirements	Other requirements / suggestion
									work, then will shift		jewellers, cheap accommodatio n
Shineshil pi Jewellers	Handmad e Gold Jewellery	Owned		1000 (Contract manufacturin g)	BMC & Fire dept NOC, Complex near residenti al area	Yes	Yes	2,000 sqft (office size)	Yes	Melting, Die shop, Hall marking facility, Accommodatio n for Karigars, Training and Exhibition halls, Hotel, Logistics	All supporting tool and equipment vendors, raw material vendors should be present in the park
Khambati Jewellery Tools	Tool and equipmen t	Owned	Based on orders	10	NA	No, not yet	NA	2,000 sqft (shop size)	NA	NA	Will think of moving only if the whole market moves
Die- cutting unit	Die-cut pieces	Owned	Based on orders	5	NA	Not yet	NA	300 sqft (150 shop space and 150-unit space)	NA	NA	Will think later. If everybody moves, then eventually will have to shift



3.3.3 Inferences drawn from Stakeholder interaction

The key insights gained from the stakeholder interactions are:

1. Stakeholder Perception about the Gems and Jewellery Park

- Most of the stakeholders are affirmative about moving to the proposed Gems and Jewellery Park. The large and mid-size players of the industry are positive and are eager to move to the jewellery park.
- The smaller units are positive however at the same time, a bit cautious. The reason for their uneasiness and not being the firstcomers, is moving out of their comfort zone of established clusters and the presence of all the facilities, market and the availability of Karigars.
- Karigars do not have an issue with migrating, provided they have steady flow of job works and a provision of affordable accommodation.
- The suppliers and vendors supporting the whole gems and jewellery industry (e.g. raw material suppliers, tools and equipment providers etc.) lack awareness about the jewellery park being setup and therefore do not have any plans of moving out of an established cluster.

2. Envisaged Internal Traffic System Design

- Overall Circulation:
 - For entry point for vehicles, a provision for parking and checking at least 50 cars inside the premises gate at any given time.
 - At least 4 to 6 basement Entry/Exits are required with 2 lane each side.
 - Separate Pedestrian entry provision with space for adequate number of people to stand in a shaded facility for security screening.
 - Two-wheeler and Bicycle entry, parking facility and circulation within the park as they are widely used mode of transport by Karigars working in the facility.
 - Delineated Ground Floor Pickup and Drop off zones as unit owners tend to call the driver at ground floor for pickup and drop off.

Detailed Design Parameters:

- NON-ID vehicle car lane for public transport such as Ola, Uber with their drop off and pickup zones at ground level.
- Separate lane for Utility vehicles such as Debris and Waste Collection Vehicle to facilitate continued activity of fit outs of Karkhanas.
- Separate lane for Logistic Vehicle, Fire and Ambulance and VIP Guest lane. As many of the catering and stationery vehicles are expected on daily basis.
- Entry for Dubbawala. There are planty of outside food service will be required even if you are serving the food at very affordable price.
- Facility and arrangement for Drivers at ground floor, as many of the unit owners comes with drivers and they look after cars and may not go to the units during their stay within premises.

- Essential public amenities such as Police Chowki, Fire Brigade, Ambulance and small hospital facility, Vault Facility, within the park.
- The average security checking time for Car is 20-30 seconds, for pedestrian 10-15 seconds and for utility vehicles it is around 2 to 5 minutes.
- Safety / Emergency response exit routes in case of contingencies.

3. Space requirement

- Industrial Gala size
 - Small units: 300 500 sqft
 - Mid-size units: 500 2,000 sqft
 - Large units: 2,000 to 5,000 sqft or multiple of 5,000 sqft Galas
- Plot size
 - Mostly large players have shown interest in buying plots. Their requirement is in multiples on 10,000 sqft sized plots.

4. Accommodation requirement

Requirement of affordable housing or dormitories has been the need for almost every stakeholder, be it jewellers or Karigars. Considering the number of Karigars working inside the park, there was a requirement of approximately 20,000 dormitories inside the jewellery park. If the option of affordable housing is considered, then areas near Shilphata, approximately 5 kilometers from the jewellery park can be considered for the development of housing complex.

5. Manufacturers wish list for the proposed Park

- > The park to have state of the art features for improved gold recovery.
- Affordability to be considered to attract small and medium jewellery manufacturing stakeholders as well in the park. Option for rented workplace scheme to be explored.
- Availability of required skill manpower in near vicinity of the park. Option of relevant process available within proximity for offloading work i.e. create multiple clusters within the park from the entire jewellery making value chain with minimum number of units of each type.
- Shopping and retail area for selling gold. For Tourism promotion, tour of selected factories to showcase handmade jewellery process.



6. Infrastructure facilities required by Stakeholders in the Gems and Jewellery Park

	Common Industrial/Utility Infrastructure	(Commercial Infrastructure		Social Infrastructure	lı	ndustrial Infrastructure
1.	Common Facility Centre for the Manufacturing units	1.	Jewellery Park Office	1.	Toilet (Gents / Ladies)	1.	Gold Melting unit
2.	Customs clearance centre including custodian services	2.	Conference Hall / Trading Hall / Exhibition Hall	2. 3.	Locker facility Controlled Food	2. 3.	Chain making unit Cutting unit
3. 4.	Design Centre Logistics providers	3. 4.	Showcase of Jewellery area Tourist zone and promotion of	1	Suppliers/ Dining area/ Canteen	4. 5.	Stamping unit Wire making unit
5. 6.	Testing Laboratories Vault Facility	5.	Helipad	4. 5.	Day Care Facility	6. 7	Gas Welding unit
7. 8.	High security premises/ Security systems Bonded Area for Job Work	6. 7.	Hotel Solar Plant and lighting for common area	6. 7.	Dormitories Training Institutes including courses for	9.	Cleaning unit Polishing unit
9. 10	Hall Marking Centre (Certification) . Refineries	8.	Shops of parts and spares needed in jewellery-making	8.	handmade jewellery artisans Affordable Housing	10. 11.	Hand making Unit Individual Air Handling
11	. Sewerage Treatment Plant / Waste treatment / water recycling . Parking	9.	/ Nominated agencies / Chemicals)		outside Park area within walking distance	12. 13.	Cooling water Hand wash and foot wash
13	Space for Electricity Generators (Electricity Back- up)	10. 11.	Machine supplier Machine maintenance			14.	with Settlement tank Recovery unit
14 15	. Water storage . Common gas pipeline (LPG) or Oxygen/Eythem	12.	Other statutory equipment supplier			15.	Controlled laundry for gold recovery
16 17	. Rainwater Harvesting . ETP for water re-cycling	13.	MISCEILANEOUS				



Project Site Assessment

4 Project Site Assessment

This chapter brings out the physical site configuration; adjoining catchment area analysis; connectivity assessment and topographic features.

4.1 Project Site Profiling

4.1.1 Physical features and support infrastructure availability

The Jewellery Park is being developed at Mumbai to encourage the local handmade workers and factories in areas such as Zaveri Bazar, Dahisar, MIDC, Dadar, Lower Parel and Bandra in Mumbai to relocate themselves in such parks and thus develop the trade itself. The proposed project site for Gems and Jewellery Park at Mahape is located at MIDC TTC industrial area.

Site configuration

- The land at site is uneven with huge level difference and will require significant levelling efforts for construction activity to be carried out.
- > There is a water body near to the proposed plot.
- The land parcel is surrounded by well-established occupants, however the approach road towards the plot is not clearly demarcated.
- Land filling/dumping through waste from nearby area is happening at one portion of the land which needs to be stopped.
- There is no land boundary at the plot and the area for proposed construction is not clearly defined.







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TTC industrial area is surrounded by several industrial areas such as Dhirubhai Ambani Knowledge City, MIDC Industrial Area, Sector 3, Millenium Business Park, and Electronic Zone. Below are the support infrastructure facilities available at the proposed land parcel and nearby industrial areas:

Table 1	15.	Support	Infrastructure	Availability
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Parameters	Taloja Industrial Area	TTC Industrial Area	Additional Patalganga Industrial Area	Patalganga Industrial Area
MIDC Internal road Access	Yes	Yes	Yes	Yes
Street Light Availability	Yes	Yes	Yes	Yes
Water Availability	Yes	Yes	Yes	Yes
Water Installed Capacity (in MLD)	65	71	120	120
Present Utilization (in MLD)	65	60	40 to 45	40 to 45
Effluent Collection System	Yes	Yes	Yes	Yes



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Parameters	Taloja Industrial Area	TTC Industrial Area	Additional Patalganga Industrial Area	Patalganga Industrial Area
Sewerage line availability	No	No	Yes	Yes
Sewerage Treatment plant availability	No	No	No	No
Electricity/Power availability	Yes	Yes	Yes	Yes
Installed Capacity by MSEDCL (in MVA)	250	1500	75	75
Utilization (in %)	100	90	40	40
Piped Natural Gas (PNG) availability	Yes	Yes	No	No

4.1.2 Connectivity and Linkages to the Site

Jewellery Park in Navi Mumbai is an ideal location as it has market availability from all corners. Diamond Can be procured by Bharat Diamond Bourse for making studded jewellery, coloured gemstones from Jaipur for making jewellery. And Mumbai has karigars from across the country who are settled in Mumbai and working here since years. Moreover, it is beneficial for the small and medium units as all the nominated agencies supplying gold have offices in Mumbai, also being the financial hub of Mumbai, it will be convenient for jewellery manufactures to approach them. Jewellery Park is nearer to the main hub Zaveri Bazar. It is only 45 minutes from Express Highway, 40 minutes from BDB and 30 minutes form the New airport.

Mahape location is 45 Mins from Express Highway, 40 Mins from BDB and 30 mins from new airport and has large no. of highly skilled and talented work force.

No.	Landmark	Road Co	nnectivity	Local Train Connectivity		
		Distanc e	Time	Distance	Time	
1.	Mumbai Internatio nal Airport	25.5 KM	1 Hour	48 KM (Nearest Station - Andheri)	1 Hour 10 Minutes	
2.	Navi Mumbai Internatio nal Airport	16.7 KM	40 Minutes	17 KM (Nearest Station - Mansarovar)	30 Minutes	
3.	Thane Railway Junction	15.6 KM	30 Minutes	12 KM (17 Min)	15 Minutes	
4.	Zaveri Bazaar	33.1 KM	1 Hour	42 KM (Nearest Station - Masjid)	1 Hour	
5.	JN Port	34.6 KM	1 Hour 20 Minutes	17 KM (Nearest Station - Khandeshwa r)	30 Minutes	
6.	Bharat Diamond Bourse (BDB, BKC)	24.3 KM	45 Minutes	22.2 KM (Nearest Station - Chunabhatti)	35 Minutes	

The location of the site is in MIDC area, Mahape, next to Spice Board, Navi Mumbai. South Central road, the key road in TTC Industrial area is at a distance of ~850 meters from the proposed site. The site is centrally located and has an excellent connectivity from the airports, rail and proposed accommodation site.

The jewellery park has two nearby local stations for daily commuters - Kopar Khairne and Ghansoli station, 3 kms and 4 kms respectively.



The site is connected to Mumbai and Thane through 8 lane highways.

Connectivity from airports is also excellent as the jewellery park is centrally located, considering both the airports, Mumbai International Airport is at distance of 25 kms and the upcoming Navi Mumbai International Airport is at 16 kms.

For connectivity via seaports is equidistant, JNPT being 35 kms away and Mumbai port also 35 kms away from the site, via road.

For trading of gems and jewellery, BDB is located 24 kms from the site and the Zaveri Bazar at 33 kms. They are connected via Vashi Bridge and Eastern freeway. The site being considered for development of affordable housing near the jewellery park would also be in the vicinity of 5 kms, near Shilphata junction.



4.1.2.1 Primary catchment (~2kms from site), secondary catchment (~5 kms from site) and tertiary catchment

(~10kms from site)

Primary catchment area in the vicinity of the site has services like, bus depots and autorikshaw stands for commuters. The area also has a good availability of private cab services like Ola and Uber. Shared autos also run in the area which can help commuters reach the nearby local station for their onward travel. The Thane-Belapur road providesconnectivity for workers going towards Thane and Panvel, an alternative for locals.

Sr.	Landmark	Road Connectivity (< 5KM)			
No.		Distance	Time		
1.	Reliance Corporate Park	5 KM	12 Minutes		
2.	Ghansoli Railway Station	3.7 KM	08 Minutes		
3.	Kopar Khairane Bus Depot	4.7 KM	10 Minutes		
4.	Kopar Khairane Railway Station	4.1 KM	07 Minutes		
5.	APMC Market	5 KM	15 Minutes		
6.	Turbhe Dumping Ground	3.4 KM	10 Minutes		
7.	Hotel Centre Point	4.9 KM	10 Minutes		
8.	Hotel Ramada	1.8 KM	05 Minutes		
9.	Hotel Sarovar Portico	2.2 KM	08 Minutes		





Secondary catchment includes hotels, restaurants and tiffin service providers in the area for food supplies and stays. The hotels range from 3 star to 5 stars, 3-star hotels include OYOs and 5 star include Sarovar Portico and Ramada hotels. In Kopar Khairne, there is a movie multiplex as well.

For regular supplies, D-mart and other provision stores are also present near the Kopar Khairne and Ghansoli stations. There are schools, banks and hospitals as well in the radius of 2 kms.

Tertiary catchment includes airports, both Mumbai and Navi Mumbai International Airports, major railway stations for inter-state travel and transportation, Thane, Mumbai Central and CST. For gems and jewellery trade, major destinations include Zaveri Bazar and BDB.

Sr.	Landmark	Road Connectivity (> 5KM)			
No.		Distance	Time		
1.	MAFCO Vegetable Market	6.3 KM	15 Minutes		
2.	Fortis Hospital	5.6 KM	15 Minutes		
3.	Turbhe Railway Station & Bus Depot	6 KM	15 Minutes		
4.	Hotel Sheraton	7 KM	20 Minutes		
5.	Airoli Sewage Treatment Plant	8.9 KM	18 Minutes		
6.	Seafood Market	8.2 KM	18 Minutes		
7.	Thane Railway Junction	15.6 KM	30 Minutes		

A snapshot of overall local connectivity and distance from project site is given below:



The project site location at Mahape is 45 Mins from Express Highway, 40 Mins from BDB and 30 mins from new airport and has large no. of highly skilled and talented work force.



4.2 "Strengths, Weaknesses, Opportunities, Threats" (SWOT) analysis for the project site

Strengths

Proximity to Mumbai: Mumbai being jewellery manufacturing and trading hub, to both national and international jewellery markets

- Bharat Diamond Bourse, BKC
- Zaveri Bazar, Mumbai
- SEEPZ, Andheri
- Largest trade shows IIJS and IIJS Signature
- Excellent connectivity:
 - Airport: Both Mumbai and proposed Navi Mumbai airports
 - Trains: Mumbai local and inter-state train stations
 - Roadways: BEST buses and shared auto service
- Planned infrastructure and amenities provided by MIDC
- Common facility centre for jewellery units
- Highly secured premise
- Residential areas within proximity of 5 kms

Weakness

- Encroachment and dumping issue in certain part of the site location
- Highly uneven and undulated land
- Site location falls under the restriction zone of the new Navi Mumbai airport, causing height restriction of 97 meters
- Cost of land on the higher side if compared to similar Jewellery park in Surat, however, it is cheaper than Mumbai

Opportunities

- Organize unorganized jewellery clusters of Mumbai
- Job opportunities for more than 1 lac people
- Curb Gold loss by using state of the art infrastructure
- Water body in the project site provides a beautiful landscape
- Single window clearance for jewellery industry
- Training and skill development for Karigars
- Promotion of handmade jewellery
- Identification and allocation of land for development of accommodation space for Karigars nearby the vicinity of the jewellery park

Threats

- Growth of unorganized jewellery sectors posing high risk to health and safety of Karigars
- Reverse migration of Karigars due to Covid-19 and lack of job works
- Garnering back interest from industry stakeholders post Covid-19 pandemic situation
- Development of similar jewellery park in Mumbai posing viability risk

4.3 Geo-referenced GIS based base Map and Land Use Map (Scale 1:2000)

4.3.1 Area Delineation

Planning area delineation is the first step in the preparation of any plan to ensure operational boundary of planning. Once the plot boundary is finalized, all studies and analysis can be undertaken under one single frame and development cab be envisaged. At initial stages, for finalization of Gem & Jewellery Park, Mahape boundary, following map of the site was shared by Gem & Jewellery Export Promotion Council (GJEPC), which consisted of 3 plot no i.e. AM-26, OS-12 EL and Q-10 PT with a total area of 1,21,589 sq. m. out of which 25,192 sq. m. area was under water bodies. Hence, developable area available at the site was 96,397 sq. m.





Also, in a letter shared by MIDC, dated 11th April, 2019, it was mentioned that the area allotted to GJEPC is 86,053 sq. m. However, in a final map provided by GIDC, Mahape (Thane), the considering whole plot boundary, we digitized and geo-referenced the park area. We also removed another parcel of land from the eastern periphery, which was a land on slope, and is approaching the waterbody. Subsequently, the new area of the plot is approximately **86,053** sq. m.

4.3.2 Existing land-use map

Existing land use analysis encompasses the review of previous planning efforts viz. development plans, master plans and existing land uses, their nature and extent. To undertake the analysis of implementation of previous planning efforts as mentioned above and to prepare a new Development Plan / Master Plan, major input is obtained from the present base map and land use scenario of the city.



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Figure 18. Existing and Proposed Land-use by MMRDA

As can be seen, in the map shown above prepared by MMRDA, the existing primary landuse of the site is "Agriculture & Other Primary Activities". The document was made under the preparation of Draft Mumbai Metropolitan Regional Plan 2016-36, in which theproposed land-use for future development is Industrial Zone. Therefore, as the proposed land-use suggests, area of site can be used for industrial purposes such as workshops, factories or warehouses and their associated infrastructure (car parks, service roads etc).

Figure 19. Land-use Map by NMMC under Social Vulnerability Assessment Study



During the preparation of Hazard Risk and Vulnerability Assessment (HRVA) 2017, conducted by Navi Mumbai Municipal Corporation, the existing landuse was prepared, which suggests that the site area is vacant land and surrounded by industrial units. There is a water stream just adjacent to the boundary of the park.





Figure 20. Proposed Land-use in Navi Mumbai Development Plan

Navi Mumbai Municipal Corporation also prepared a proposed land use map, in which proposed land use for planning area is Industrial zone under MIDC area. Vacant land on the eastern side of site has been proposed as Regional Park.

Figure 21. Photos of Site Survey (Industrial Units, Dumpfill Site & Water Body)



It was also observed during the site visits that there is also a landfill dumping site near the water body and some industrial buildings near the periphery of the project site.

4.3.3 Built up Area

The majority of the land available in the park currently is a vacant land. As depicted in the map of built up area shown below, there are industrial buildings on the western border of the project site, including Reliance Park and the development of some temporary squatter in a pocket can be seen. There is also a landfill dumping site and a Nalla/water stream at the back side of the project site.





Figure 22. Map of Built up Area

4.3.4 Existing Road Network

The site can be accessed by a 30 meter road, however, there are no metal roads within the site as such. There is one non-metal /kutcha pathway passing through the project site from the north, approaching towards the south.

Figure 23. Map of Existing Road Network



The nearest main roads from the site are S Central Road, Shil Phata Mahape Road and Thane-Belapur Road.



4.3.5 Base map with all Digitized Revenue maps and Nagar Palika maps

Figure 24. Revenue Map of the Site Area available from MRSAC Portal



The Revenue map for the site project, shown above has been obtained from MRSAC Portal with the plot boundaries of MIDC estates. Regularized shape/ irregular shape unused space

4.3.6 Existing satellite imagery





The satellite imagery available for the project site is at a resolution of 0.5 m, which has been obtained from open-source. The imagery procured is from year 2020. As can be viewed from the imagery, most of the area in project site is vacant and covered with shrubs and vegetation. There are few settlement towards the western side of the site. There is water body on the eastern periphery of the project site.





Figure 26. Slope Mapping of Project Site

4.3.7 Topography

The project site is a part of Deccan traps which are largely basalts. Due to this rock type and sufficient level of ground water, the soil pattern, observed here is predominantly sand along with alluvial and loamy soils.

In terms of slope distribution, as depicted in the map, the overall trend contours is dipping towards west and north.

4.3.8 Base map with Ground Survey

The Drone survey and DGPS Survey was conducted of the site for plot no. EL 237 of MIDC on 24th December 2020. The survey was conducted as per the drawing provided by MIDC for the said plot admeasuring to 89053 Sq.M. located at Mahape, Mumbai. The drawing provided by MIDC is as follows:

Image 1: Reference Drawing provided by MIDC





SCALE-1CM = 30.00M

The above drawing was geo-referenced in GIS software and accordingly coordinates and area was derived from the drawings. Table for derived coordinates from GIS system are given in the table below.

	Х	У
1	292734.5	2113381.1
2	292520.8	2113310.6
3	292557.4	2113212.0
4	292939.1	2113302.5
5	292950.9	2113424.4
6	292955.4	2113453.3
7	292920.9	2113473.3
8	292867.9	2113495.7
9	292864.1	2113517.0

Image: X Y	coordinates	of the corne	ers of plot EL	-237

	Х	У
10	292810.2	2113658.2
11	292768.0	2113644.0
12	292780.7	2113606.1
13	292757.0	2113598.2
14	292760.1	2113588.6
15	292731.8	2113579.2
16	292742.2	2113547.4
17	292684.9	2113528.5

Figure 27: Numbering of coordinates of the corners of plot EL-237





The plot area for the said plot was admeasured to **86053 Sq.M.** in the GIS software.

Site Survey:

On 24th December these coordinates were derived on the site through DGPS instruments and also drone has captured images with 0.2 m resolution with WGS84 coordinate system.



Figure 28: Site Photos while conducting survey



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Figure 29: Image: Arial image captured by drone:







Observations: Following Observation were captured during the survey

1) The site has encroachment at 04 places:

No.	Location	Description and area
1		Towards the Northern side adjacent to 30M approach road to the site by temporary huts. Area: 1400 Sq.M.
2		Towards the Northern side adjacent to existing industrial plots to the site by temporary huts. Area: 2200 Sq.M.
3		Towards the Western side adjacent to 30M approach road to the site by temporary huts. Area: 8000 Sq.M.
4		Towards the Western side adjacent to 30M approach road to the site by Quarry. Area: 6000 Sq.M.





2) Site coordinates falls inside existing industry as per drawing provided by MIDC

3) Shape of the plot EL237 provided in drawing by MIDC is not matching on the ground.





4) Some portion of the land falls in to adjacent water body.









5) 0.5 Meter Contours were captured as per physical features on the site:



6) Plot Boundary suggested by an architect:



7) Coordinates of the desired plot boundary:

Point No.	Х	У	Point No.	x	У
1	292712.02	2113375.03	8	292782.27	2113601.64
2	292523.44	2113305.06	9	292754.43	2113592.37
3	292572.30	2113171.25	10	292757.54	2113582.90
4	292887.16	2113286.21	11	292729.94	2113573.78
5	292898.99	2113408.00	12	292740.20	2113542.72
6	292813.49	2113649.05	13	292661.37	2113513.75
7	292771.20	2113634.85			



4.4 Existing GDCR

While planning for an industrial park, it becomes mandatory to study existing byelaws and guidelines which are comprehensive reference framework to provide a first overview of what sustainability in an industrial area is all about. These guidelines are meant to serve as a ready reckoner for all the basic, technical, environment and social infrastructure provisions in the green Industrial parks. Therefore, following documents were studied, before planning for Gems and Jewellery Park.

- a) <u>Policy for Industrial Parks comprising of flatted galas for Readymade Garment</u> <u>manufacturing, Gems & Jewellery, Micro Electronics and Engineering units-</u> <u>2018</u>
- b) MIDC GDCR
- a) <u>Policy for Industrial Parks comprising of flatted galas for Readymade Garment</u> <u>manufacturing, Gems & Jewellery, Micro Electronics and Engineering units-</u> <u>2018</u>

The policy defines the allowed basic supporting activities in the park other than industries and admissible additional floor space index. The provisions of the same are mentioned below:

- Support services / facilities means services / facilities required for carrying out business of readymade garment production, gems & jewelry, micro electronics and engineering units in flatted gala industrial complexes, which will not include the following activities: <u>Malls, Cinema Theatres, Public Auditoriums and</u> <u>multiplexes and Residential Apartments for sale to common public</u>. (Section -2.3 Support services / facilities)
- ii. But it will include following activities : <u>Small retail shops</u> having area not more than 1000 sq. ft. and the area under this category shall not be more than 5% of the total area for support services, <u>Commercial showrooms, training institutes, common conference room</u> for the units in parks, <u>Residential apartments for workers</u> working in above industrial parks, whose area will be within the maximum permissible carpet area decided from time to time for the Slum Rehabilitation Authority (SRA) of State Govt. Housing Department and the permissible area under this category will be within the ceiling of 20% of the total area for support services, The Development Commissioner (Industries) will be the competent authority for clarification of any aspects. (Section -4.4 Support services / facilities)
- iii. Industrial building having a minimum built up area of 20,000 sq. ft. can establish Industrial Park. Out of the total built up space, minimum 80% area will have to be used for readymade garment production, gems & jewelry, registered eligible MSME production units under micro electronics sector. Maximum 20% area can be used for support services (as per para 4.4). Registered production unit means (as per para 4.1) eligible unit holding Udyog Aadhar Memorandum (UAM). (Section 5.1)
- iv. For Industrial Parks across the State, **upto 200% additional floor space index will be admissible** on 1 or basic admissible floor space index which is more

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depending upon availability of road width. For development of public and private parks approved and registered by Directorate of Industries, 200% additional floor space index will be admissible with or without premium on prevailing ready reckonar rate & depending upon availability of road width. (Section 5.2)

b) <u>MIDC GDCR</u>

Procedure for procuring development permission, building Height, layout plans, subdivision of land

Particulars and Documents to be Submitted along with Application (Section 3.3)

The following particulars and documents shall be submitted along with the application viz.

- a. Copy of <u>letter of allotment</u> from MIDC
- b. Copy of lease agreement/ownership document
- c. Copy of <u>demarcation plan</u>

d. Latest Copy of registration of Architect with Council of Architecture and in case of Town Planner registration with Institute of Town Planners, India.

e. A site plan (in quadruplicate) of the area proposed to be developed to a scale of 1:500 showing the following details wherever applicable.

i) The **boundaries of the plot**.

ii) The position of plot in relation to neighboring street.

iii) The name of the streets in which the plot is situated.

iv) All the existing buildings and other development standing on over or under the site.

v) The **position of building** and of all other buildings which the applicant intends to erect.

vi) The <u>means of access</u> from the street to the building or the site and all other buildings which the applicant intends to erect.

vii) <u>Open space to be left</u> around the buildings to secure free circulation of air, admission of light and access for scavenging purposes.

viii) The <u>width of the street</u> (if any) in front and of the street at the side or rear of the building.

- ix) The direction of north point relative to the plan of the buildings.
- x) Any physical features such as trees, wells, drains, etc.

g. In the case of <u>a Layout of land or plot</u>

i) <u>Site plan</u> (in quadruplicate) drawn to a scale of 1:1500 showing the surrounding land and existing access to the land included in the layout.

ii) Plan (in quadruplicate) drawn to a scale of 1:500 showing:

a. <u>Sub-divisions of the land or plot</u> with dimensions and area of each of the proposed sub-divisions and its, use according to prescribed regulations,

b. Width of the proposed streets and

- c. <u>Dimensions and areas of open spaces provided in the layout</u> for the purpose of garden or recreation or like purposes.
- iii) A plan showing location of road signage with typical details of signage in terms of their sizes and contents.
- ii. Building Heights (Section 20)

The maximum permissible height of buildings in any MIDC area shall be as stipulated by the <u>Chief Fire Officer and Fire Adviser (F.A.)</u>, which in turn shall be governed by the availability and capacity of the local fire fighting facility.

 iii. Layout or Sub-division of Land Development of land in the form of sub-division or layout of more than one building (excluding ancillary building) shall be governed by the following regulations: (Section 21)

a. <u>Whenever land is proposed to be sub-divided or proposed to be developed</u> for two or more buildings, a layout of the entire area showing proposed subdivision /layout of buildings, with access roads, open spaces etc. shall be submitted for approval. (Section 21.1)

b. Plots for different uses shall be laid out, based on the following criteria: (Section 21.2)

Industrial Plots:

Sr. No.	Types of Development	Minimum Plot area in Sq.m
(i)	For manufacturing industrial units	500 & more
(ii)	Canteens, transport offices, individual shops for industrial goods and services	200 & above
(111)	Plots for project affected persons [includes (iv) & (v) below]	100 to 150
(iv)	Plots for convenience shopping units	50 to 60
(v)	Informal shopping, stall sites	up to 24

c. The <u>provision of roads</u> in any layout shall be as under: **(Section 21.3)** Table 6: Provision of Road in Industrial and Commercial Zones

Length of road	Minimum width in Metropolitan Region as notified by State Government under MRTP Act 1966'	Minimum width 'in other areas'
Up to 150 m	15m	12 m
Above 150 m	20 m or more as may be required by the projected traffic.	15 m

Table 7: Provision of Road in Residential Zone

Length of road	Minimum width in Metropolitan Region as modified by State Government under MRTP Act 1966'	Minimum width 'in other areas'
Up to 75 m	6 m	6 m
75 m to 150 m	10 m	10 m
151m to 300 m	12 m	10 m
Above 300 m	15 m or more as may be required by the projected traffic.	12 m

d. <u>Recreational Open Spaces within Layout</u> (Section 21.5)



In any layout or sub-division of <u>land admeasuring more than 1 hectare for</u> <u>industrial purpose</u> and more than 0.5 hectare for residential purpose,<u>10% of</u> <u>total area of land</u> so sub-divided shall be reserved for open space, which shall as far as practicable, be located in one central place. Out of such open spaces, an area to the extent of <u>5%</u>, may be allowed to be constructed, <u>only with</u> <u>ground floor structure, for the purpose of incidental/allied public use, such</u> <u>as pavilion, club house gymnasium, water tank, care taker"s room, toilet,</u> <u>store room crèche, library, children play school</u> and such other purpose which is incidental to the main purpose for which the open space is used.

Location of such structures shall be in one corner of the open space provided further that in the industrial layouts, minimum width of open space shall be $\underline{15}$ <u>m</u> and area of open space shall not be less than $\underline{750 \text{ Sq.m}}$ and in residential <u>zone</u>, it shall not be less than $\underline{125 \text{ Sq.m}}$

e. Amenity Areas: (Section 21.6)

In any layout or sub-division of land <u>admeasuring more than 1 hectare for</u> <u>industrial</u> purpose and 0.5 hectare for residential purpose, <u>5% of the total area</u> <u>of land so subdivided</u>, shall be reserved for "Amenity Area". Following uses shall be permissible in the lands reserved for Amenity Area-MIDC offices, Local Area offices, Post Offices, Telephone Exchange, Fire Stations, Police Stations/ Chowkies, Electric Sub-station, Water Supply Works, Drainage Works, Common Facility Centre/Recreation Centre, Industries" Association offices, Schools/ Colleges, Educational institutions, Training Centre, Pollution Control Laboratories, Sulabh Shauchalaya, informal shopping, stall sites, plots for PAPs, communication centers, milk booths, and such other users as may be permitted by MIDC.

iv. Requirement of site (Section 22)

a. Distance from Water Course - No development, whether by filling or otherwise, shall be carried out within <u>9M</u> on either side of the bank of a <u>minor</u> <u>water course</u> and <u>15M</u> on either side of the bank of a major water course or within a distance as may be stipulated by MIDC.

v. <u>The GCR to the following land uses shall not exceed 0.5</u>. (Section 18.7)

a) Light Industries, Extensive Industries, Heavy and Large Scale Industries with residences for essential staff* (As per the lists attached in Appendix I)
b) Obnoxious and hazardous industries only in the areas exclusively earmarked for this purpose. (As per list attached - Appendix I)

c) Service Industries including Flatted Factories

d) Storage buildings with residences for essential staff.

Note: Subject to written permission of CEO, larger GCR may be permitted in respect of Industrial buildings, with due consideration to the requirement of sector specific industry.





5 Master Plan for Gems and Jewellery Park in Mumbai

5.1 Aim & Objectives of the Master Plan

Gems and Jewellery industry have a huge potential to grow at a rapid pace, largely due to growing global demand, and increasing affluence and changing demographics in India. Given its employment potential, contribution to exports, foreign exchange and GDP, it is essential to revive manufacturing in the country and develop a Gems and Jewellery park with the provision of specialized infrastructure and facilities for industry. For systematic growth of the industry all the aspects need to consider, the challenges identified, met, and the growth drivers exploited and nurtured. Coordinated efforts would give the necessary boost to the industry, lead industry through to a new growth path, increasing its contribution to GDP and take the industry into a new phase in the international markets.

The development of Gems and Jewellery Park in Mahape, Navi Mumbai, is envisaged with a view to provide an internationally competitive and a hassle-free environment for Gems and Jewellery industry in well planned zones with all infrastructural facilities and amenities of international standards. It shall focus on development of medium and large-scale industries, as well as trading and services. All facilities required for Gems and Jewellery industry will be combined together with housing for the entrepreneurs and employees working in the area. Also it will ensure sustainable development of medium and large-scale industries and service activities with sufficient provision for future growth and expansion. Gems and Jewellery park will broadly range from logistics and warehousing hub to social, commercial, residential and recreational facilities. Emphasis will be placed on creating a functional and high visual urban environment within the park with proper landscaping. Hence the Aim & Vision of the development of Gems and Jewellery Park in Mahape, Navi Mumbai is -

"to provide an internationally competitive and a hassle-free environment for the industry in well planned manner, with delivery of all infrastructural facilities and amenities, including a range of activities from logistics and warehousing hub to social, commercial, residential and recreational uses"

The vision perceived is further enumerated in the following specific development objectives:

- i. Create a world class Gems and Jewellery industrial park in Mahape.
- ii. Enable private developers/ investors to Gems and Jewellery industrial participate in the project
- iii. Economic growth by providing world class infrastructure and facilities;
- iv. Provide an efficient and effective industrial hub for export-oriented companies thereby helping increase foreign exchange earnings;
- v. Create local employment opportunities.

5.2 Planning Principals of Concept Plan

The Master Plan for the Gems and Jewellery Park in Mahape has evolved from a comprehensive understanding of the existing situation, Market Trends, Infrastructure availability, Best practices & success factors, existing Building guidelines and Development Control Regulations, scale of development with project development phasing strategy and



availability of land. The process so far has involved an exploration of several alternatives, for each of which certain principles have been primary guiding factors, laid down with a view to achieving the vision for the Project Area. While the conceptual studies may differ in their design, the approach and planning principals, as briefly stated below, are the same. The following guiding factors / principles were taken into account while designing the Master Plan for the Project Area in order to achieve the above stated vision:

A. Image of the Gems and Jewellery Park

Being one of the important location for Gems and Jewellery Park it, is envisaged as a 'Growth Centre' for the gems and jewellery manufacturers/suppliers/sellers and will act as a magnet for the surrounding areas by offering better quality social and physical infrastructure facilities. The park will have its own unique image that can be created through development of land mark projects or areas which is unique to this place.



Figure 30. Image of the Park

B. Balance between Resource Conservation & Quality of Life

The Park Area should have sufficient amount of green cover per person in the form of reserve recreation open spaces /water bodies. Enough open spaces for recreation purpose, as suggested in the standard guidelines, shall be provided through appropriate balance between built and un-built areas and resource conservation which shall help in improving the quality of life of the local people.



Figure 31. Balance between Resource Conservation and Quality of life

C. Accessibility and Connectivity



An efficient road network is a primary requirement of the Master Plan of an industrial park. Considering the envisaged development of the area, the growth of the park would be greatly enhanced by the provision of private and public infrastructure that would afford easy accessibility and connectivity within the area, as well as facilitate connectivity between the Karkhana and the surrounding areas such as housing units, amenities & commercial units.





D. Existing bye-laws and Guidelines

These are defined as the standards & specifications designed to grant minimum safeguards to the workers during construction, to the health & comfort of the users and to provide enough safety to the public in general. While planning for the park the existing bye-laws and guidelines have been taken into the consideration. G & J Park Policy & MIDC GDCR have been studied, based on which the built form, park Layout, space Requirements, Service Facilities for the park has been envisaged.

E. Implementation Efficiency

The Master Plan outlines the future projections and also outlines the proposed planning norms and zoning regulations to regulate the development process for achieving the overall vision and goals. An implementation strategy has to be designed and recommended to be followed rigorously to achieve the desired development objectives.

5.3 Scale of Site, Built form and footprint Study

Keeping the area of industrial park in mind, a basic study was done of various parks, estates and avenues. An attempt was made to see the built form, density of building footprints, number of units, FSI, building heights in those area with the frame of boundarydelineated for the industrial park in Mahape, Mumbai. Snapshots of some of those parks/estates have been shown below.



Figure 33. Building Footprint Study







5.4 Evolution of Concept Plan and Alternative Options

Keeping the same approach and planning principals in mind, the layout design and concept of the park was visualised with basic primary guiding factors. Conceptual Plan for the gems and jewellery park was designed on the basis of the program brief, with a view to implement the desired design principles and to test the workability and feasibility of achieving the project objectives. Development of layout plan at conceptual level helped envisage physical manifestations of the vision and program brief proposed for the Project Area.

Based on the basic shape of the park area as "L", a nodal activity/ facility/ common open interactive space in the centre has been envisaged, which will serve the whole surroundings of the park. Various activities / mixture of activities have been distributed in the park by dividing the area into different segments. As shown in the figure below, zoning will be done based on the distribution of activities, such as industrial activities/ Karkhanas will be concentrated in the southern section majorly, whereas, housing will be placed in the northern pocket of the park, by giving it some segregation with the Karkhanas. On a micro level, mix landuse zoning will be encouraged by providing commercial units at the lower floor, some amenities/common facilities at the middle floor and remaining upper floors for the Karkhanas.

Figure 34. Evolution of Concept Plan



Subsequently, the next task is to develop the conceptual alternatives which are essential to identify the built form character, height of the buildings, number of floor, FSI, area designated under roads and open spaces, the typology of development. Various alternative conceptual proposals have been shown below with different ground coverage, built up area and FSI utilized.


Alternative option - 1



Figure 35. Alternative option -1 of Draft Layout Master Plan

Option 1 has the same ground coverage as 30%, but the FSI is low as 1.04. All of the buildings with G+4 floors would be Karkhanas and one building i.e. G+14 would be a Hotel. Therefore, option- 1 provides very less floor space with a very less capacity to accommodate industrial units. However, in terms of return of investment, option - 1 cannot be considered a fruitful project because considering the cost of land and construction cost, per unit industrial unit cost would be too high and not economical. Also, gems and Jewellery as an industry if developed as a park will require a threshold size /scale/number of industrial units, which cannot be accommodated in floor space available in option 1.



Alternative option - 2



Figure 36. Alternative option -2 of Draft Layout Master Plan

In Option 2, height of the buildings has been kept G+4, where all the building units are Karkhanas. However, in order to provide more floor space for more number of industrial units, the ground coverage has been increased i.e. 36%. Still, the FSI used & floor space in option - 2 has not considerably increased but the ground available, for open spaces and other amenities has been decreased.

Alternative option - 3



Figure 37. Alternative option -3 of Draft Layout Master Plan



Option 3 is based on higher FSI with building units of more number of floors, in which the ground coverage will be 30%. There are 4 blocks of building - G+1, G+4, G+14 and G+32, which will include Karkhana units, retail shops, amenities, and open exhibition ground. The FSI utilised in option- 3 is 2.94 which is higher than the other alternative options and is equitant to most of the estates/parks/avenues (shown in our case studies previously, having FSI more than 4 in most of the cases). Hence, option- 3 provides more floor space with a capacity to accommodate more industrial units for workers with 70% of land left for open space and roads.

Comparison & Suggested Option:

It can be observed that in order to attain considerable FSI and minimum threshold number of industrial units, the building height and number of floors have to be more than what has been proposed in Option -1 & Option -2. Whereas, Option - 3 seems more logical & workable, which focuses on higher-density developments with more walkable neighborhoods and bring together the concentration of industrial units/population required to support Gems and Jewellery Industry. In addition, the high rise development as proposed in Option - 3, should be supported with greater mix of land-uses and strategically placed commercial/office activities at better locations. Activity engagement is an important key to success. Planned development should provide benefits to neighbors; some mix of jobs, retail, amenities, and public spaces to offset possible negatives.



5.5 Conceptual Master Plan

Proposed Conceptual Master Plan and Land Use statementfor Industrial Buildings of G+14

Final conceptual master plan focuses on greater mix of land-uses and strategically placed commercial/office activities at better locations. Below is the final conceptual layout master plan for Gems and Jewellery Park.

As we can infer from the final layout plan, the planning has been done such that all the building units of the park get better road connectivity which is essential. In the proposed master plan, the industrial units/ Karkhanas have been provided along the main southern axis in the park. The amenities have been provided alongside these karkhanas in the Southern and eastern corner of the park. Whereas the commercial activities have been located at Tower C in the North. The center of the park consists of open exhibition ground with industrial units in black B and block C of commercial activities. There are building with 4 types of building - G+1, G+9, G+14 and G+32. The building height of Block A is G+14, with Karkhanas units on all the floors. Block B is again Karkhanas units, having a height of G+9.



Figure 38: Finalized Detailed Layout Master Plan



Breakup of Master Plan				
Land Area:	86,053 Sq.M.			
FSI Utilised:	3.0			
Ground Coverage:	31.3%			
Building Height:	G+31, G+14, G+9, G+1			
Total Builtup Area:	4,88,817 Sq.M.			
	52,61,622 Sq.Ft.			
Total Saleable Area:	3,06,206 Sq. M.			
	32,96,006 Sq. Ft.			

Table 16: Break-up of Master Plan, Saleable Area & Built-up Area

Breakup of Sa	aleable Area (sq.ft.)	Breakup of Bu	ilt up Area (sq.ft.)
Karkhana:	26,14,738	Karkhana:	31,64,247 Sq.Ft.
	Sq.Ft.	Offices:	6,30,254 Sq.Ft.
Offices:	6,81,267 Sq.Ft.	Common Facility:	9,580 Sq.Ft.
TOTAL:	TAL: 32,96,006	Basement	14,57,541 Sq.Ft.
	Sq.Ft.	TOTAL:	52,61,622 Sq.Ft.

Looking at the area details from the figure shown above, we can refer that with total land area as 86,053 sq. m., the FSI utilized it 3.00 and ground coverage is 30%. The total built up area is 4,88,817 sq. m. and saleable area is 3,06,206 Sq.m.





The proposed land use distribution has been prepared based on existing guidelines, the availability of developable land, demand for infrastructure in industry in present and as well as in future. Land use categories have been provided as shown in the figure above, where we can infer that ratio of the area dedicated for industrial use to other such uses as commercial area,

Figure 39: Existing Land-use Map

amenity space is **80%:20%**. According to the proposed land use, offices use will occupy approximately 6,30,254 Sq.Ft. of the total built up area. The built-up area under public and semi-public category shall be around 9,580 Sq.Ft.



5.5.1 Proposed Roads, Traffic Flow & Basement

Transportation Planning is an integral part of any Master Plan. If not planned properly, transportation issues in future such as inadequate roads, lack of proper parking spaces, inefficient public transport become major concern. Proposals for transportation evolves a mechanism to tackle these problems ensuring a minimum level of service for carrying out various transportation activities. The proposed transportation network is primarily based on the way overall Master Plan has been conceptualized. The road network has been developed along with the overall spatial configuration of the Plan. Proposed land-use and layout plan played important role in development of proposed transportation network.



Figure 40: (a) Proposed Road Map and Traffic Flow (b) Basement Map

Road network planning has been done such that all the building units of the park get better road connectivity which is essential. Keeping accessibility and connectivity within the park as an objective, and also facilitating connectivity between the Karkhana and rental housing units, amenities & commercial units, access has been provided from 3 sides of the park. As can be seen in the figure above part (a) The main entry point for vehicles would be from 3 points, out of which separate pedestrian entries will also be provided 2 points. As shown in map (b), parking of the vehicles would mainly be in basement which has entry from 3 sides.

5.5.2 Proposed Industries & Activity Structure

Gems and Jewellery industry involve Import, export, processing, retailing of jewellery products, which also comprises a wide range of products like cut and polished diamonds, Gold jewellery, non-gold jewellery, coloured gemstones, pearls, costume/fashion jewellery, rough diamonds and synthetic stones. Hence, different there will be different requirement of space and set-ups based on the Karkhana owner's expertise and scale of business. Acknowledging the same, different Karkhana units (1354) of different sizes with specific setups have been proposed in various building blocks, as shown in the table below.



Feasibility Report - Gems and Jewellery Park in Mahape, Navi Mumbai

Unit Type	FSI Carpet Area Sq.Ft.	No of Units	Saleable Area With Loading Sq.Ft.	Loading Factor on Carpet FSI
Karkhana Type 1	4,394	190	5,273	1.2
Karkhana Type 2	3,691	190	4,429	1.2
Karkhana Type 3	2,959	76	3,550	1.2
Karkhana Type 4	2,226	76	2,672	1.2
Karkhana Type 5 (small)	518	126	621	1.2
Karkhana Type 6 (small)	344	540	413	1.2
Office Type 1	2,161	124	3,025	1.4
Office Type 2	1,763	124	2,469	1.4
	TOTAL	1,446		

Table 17: Total number of Kharkhana Units- Blockwise



Figure 41: Proposed Industrial Zone and Activities



Figure 42: Block A of Karkhana Units



Block A will mainly be designed for Karkhana Units and will be of G+14 floors. The size of Karkhana Units at different floors will be of different size, depending upon the number of floor on which they are located. The floor wise detailing of size and section design for Karkhana units has been explained as shown below:



Figure 43: Karkhana Units in Block A (1st to 5th floors)

In Tower A, as depicted in the figure shown above, from 1st to 5th floor, there would be 38 units of Karkhanas on each floor. The area of each unit of Karkhana will be 4,394 sq.ft. These units will be biggest in size A Block.



Figure 44: Karkhana Units in Block A (6th to 10th floors)

As shown in the figure above, from 6th to 10th floor, there would be 38 units of Karkhanas on each floor. The area of each unit of Karkhana will be 3,691 sq.ft.



Figure 45: Karkhana Units in Block A (11th to 12th floors)

In the figure above, from 11th & 12th floors, there would be 38 units of Karkhanas on each floor. The area of each unit of Karkhana will be 2,959 sq.ft.



Figure 46: Karkhana Units in Block A (13th to 14th floors)

As shown in the figure above, from 13th & 14th floors, there would be 38 units of Karkhanas on each floor. The area of each unit of Karkhana will be 2,226 sq.ft.





Figure 47: Karkhana Units in Tower B

The largest units of Karkhanas have been proposed in Block B, which includes 1 tower of G+9 height, as shown in the Centre of the park.



5.5.3 Proposed Offices and complexes for Commercial activities

Commercial activities are very essential for any development planning as these create an image of the place. In commercial zone, one hotel has been proposed near the exhibition open space. Total number of retail/shopping units with their carpet area and saleable area can be seen in the table given below.

Table 18: Total number of Offices and complexes for Commercial activities with area

Commercial Units	FSI Carpet Area Sq.Ft.	No of Units	Saleable Area With Loading Sq.Ft.
Office Type 1	2,161	124	3,025
Office Type 2	1,763	124	2,469
		248	



Figure 48: Proposed Commercial and Retail Activities

Retail shopping and commercial offices under commercial use have been proposed in Block C which is G+32 floors.

5.5.4 Proposed Social Amenities

One of the key objectives in preparing the Master Plan for G&J Park, Mahape would be to make the provision of adequate amenities at appropriate level. Such facilities have been proposed in the Eastern Part and Southern Part along the main entry Roads, as shown in the figure below. These amenities will include Fire Fighting, Police Chowki, Hospital, Gate etc.



Feasibility Report - Gems and Jewellery Park in Mahape, Navi Mumbai



Figure 49: Proposed Social Amenities

Other main management functions for the operation of the park include infrastructure management and operation, along with the provision of administrative, business and social services, which will be proposed as per the requirement and suitability. Open space for exhibitions/workshops would be provided in the front. Visitors' tour organized in the premises based on their interests and their customized requirements.



5.5.5 Proposed Open Spaces

The open spaces located within the Gems and Jewellery Park will act as a dynamic and active belt with proposed interconnected pedestrian walkways that would be integrated with the pedestrian network of the entire area. Social and civic amenities will form major nodes and points of interest along this green belt and offer connections to the arterial roads.



Figure 50: Proposed Exhibition Ground & Open Spaces



5.6 Population Projections and Infrastructure Demand Assessment

The chapter highlights the estimation of various infrastructure segments in terms of demand in future and the proposals to overcome this demand. Based on current water supply and the future supply vis-a-vis water demand and the source of water; the water demand has been discussed. For sewage & solid waste future, estimates have been made using appropriate methodologies & the suggestions made to have proper disposal of both these infrastructure segments have been suggested.

5.6.1 Population Estimation

One of the important objectives of preparing a Master Plan is to develop various civic facilities to support the future population. The provision of the amenities should be adequate in terms of number and area of amenities. In the proposed plan, these amenities are provided at various levels, depending on the nature of the particular amenity. The quantity and area of each amenity depends on the level at which it is being provided, and the size of population it is envisaged to support.

Table 19: Population Projection

Total Land Area	86053	Sq.M.
	21	Acre
Total Builtup Area Without Parking	38,04,081	Sq.Ft.
Sq.Ft. Area per person (Standard)	100	Sq.Ft./Person
Sq.Ft. Area per person (Very High Der	nsity) 55	Sq.Ft./Person
Total Working Population (A)	69,165	Persons
Floating Population %	15	%
Floating Population (B)	10,375	Persons
Total Population estimated for the Proj	iect 79,540	Persons
Ar	oprox. 80,000	Persons

5.6.2 Standards / Guidelines for Infrastructure Estimation

A key objective in project is the provision of an appropriate level of community facilities supported by balanced infrastructure development. The provision of infrastructure is a vital parameter for the sustainable growth of any area, with the optimum utilization of natural resources and technical parameters.

There are several standards and guidelines given by institutions like Urban and Regional Development Plan Formulation and Implementation (URDPFI), Ministry of Commerce and Industry, Industries, Energy and Labour Department (Govt of Maharastra); Central Public Health and Environmental Engineering Organization (CPHEEO), MoUD, GoI; National Building Organization (NBO) and World Bank Environment Health and Safety (EHS) Policy for the quantification and qualitative aspect for balanced infrastructure development of any habitation. Below are the adopted standards / guidelines for the quantification of infrastructure sector like water supply, sewerage and solid waste for the Project Area.



Feasibility Report - Gems and Jewellery Park in Mahape, Navi Mumbai

S.No.	Service Head	Adopted in G & J Industrial Area
1	Water Supply	45 lpcd
2	Sewerage	95% of Projected Water Demand
3	Solid Waste	0.2 kg/per capita per day
4	Storm Water Drainage	60 mm/ Hour

Table 20: Standards / Guidelines for Infrastructure Estimation for Project Area

As discussed earlier in Population Projections, the population for Project Area has been estimated based on the area, FSI achieved, total number of Karkhana Units & method of Carrying Capacity of the Area. The future demand estimation of the infrastructure within the Project Area has been carried out considering these population projections.

5.6.3 Water Demand Estimation

Water demand for G&J Park is calculated considering per capita per day (lpcd) water supply of 135 litres. This water demand is inclusive of transmission loss which is assumed as 15% of the actual demand. The water demand for firefighting has also been taken into consideration & is assumed as 2% of the total water demand including transmission losses. Based on this, infrastructure would be provided for water supply in the Project Area. The table below shows water demand for 2040:

Total Population of the Park Peak Capicity	80,000	People
Percapita water Supply for Industrial Area	40	Liters/Head
Percapita water Supply for Office Area	45	Liters/Head
Water Supply for the Park	45	Liters/Head
Total Water Requirement	3600000	Liters
	3.6	MLD
Approx.	4	MLD

Table 21: Water Demand Estimation

As per the total water demand, i.e. 4 MLD per day, 1.7 MLD water can be availed from Reusable Water for Flush and Gardening. Hence the remaining requirement of fresh water would be 2.29 MLD.

Total Water Supply Required	4	MLD	
Reusable Water for Flush and Gardening	1.7	MLD	
Fresh Water Required Daily from Source	2.29	MLD	

5.6.4 Sewage Generation

Sewage Generation for the G&J Park is estimated on the basis of the projected water demand of Project Area, assuming the standard norm that nearly 95% of total Water Supply is usually discharged as Waste Water. According to these figures, the total Sewage



Generation in the G&J Park would be about 3.5 MLD. The table below shows sewage generation for the year 2040 in Project Area.

7	able	23:	Sewage	Water	æ	STP	Ca	pacit	v
					~		~~~	Pacie.	

Total Water Supply of The park	4	MLD
Standard % of sewage water of Supply water	95	%
Total Sewage Water Generated	3.42	MLD
Sewage Treatment Plant Capacity Required	3.5	MLD
STP can generate treated waste water for gardening and flush purpose	50	%
Total Reusable Water Generated	1.7	MLD

5.6.5 Solid Waste Estimation

Assuming an average 0.2 kg per capita per day waste generation, estimated Solid Waste Generation in the G&J Park would be 16 Tons per day.

Table	24:	Solid	Waste	Estimation
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Per Capita Solid Waste Generation at Park	0.2	Kg/Person/Day
Total Solid Waste Generation at Park	16	Tons/Day

5.6.6 Storm Water Drainage

Total Capacity design for storm water runoff in G& J Park is expected to be 60 mm per Hour. Another estimation for the length of Storm Water Drainage can be with respect to total Road length in G&J Park.

Table 25: Strom Water Drainage System

Total Capacity design for storm water runoff	60 mm/Hr	

5.6.6 Power Requirement

Table 26: Power Requirement				
Per 100 Sq. Ft of Industrial area 1 KV Load is considered	29300	KV		
Per 500 Sq.Ft of Other Area 1 KV load is considered	4195	KV		
	33495	KV		
	33.495	MEGA WATT		
Space for Sub Station and Transformers	50 M X 50 M	2500 Sq.M.		

5.6.7 Fire Fighting Water Storage Requirement

Table 27: Fire Fighting Water Storage Requirement

Total Firefighting Tank Capacity Required for Mega Projects 500,000 Liters



5.7 Block Cost Estimates

These costs have been estimated for major trunk infrastructure, necessary for the development of plan proposals. Several of these projects will require detailed feasibility estimates and preparation of detailed project reports prior to implementation.

Table 28: Block Cost Estimates

Water Storage Tank Construction	Included in Per Sq.Ft. Cost of construction
Water Supply Pipelines	Included in Per Sq.Ft. Cost of Construction
Sewerage Pipelines	Included in Per Sq.Ft. Cost of construction
Sanitary Fittings/Taps/system	Included in Per Sq.Ft. Cost of Construction
Drainpipes for Rainwater	Included in Per Sq.Ft. Cost of construction
Fire Fighting Pipes	Included in Per Sq.Ft. Cost of Construction
Fire Fighting Tank	Included in Per Sq.Ft. Cost of construction
Electrical wires and Cables	Included in Per Sq.Ft. Cost of Construction
Application Charges for Meter/Substation Connection	As per Actual
Borewell and Submersible Pumps	Included in Per Sq.Ft. Cost of construction
Sewage Treatment Plant 3.5 MLD	Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction
Sewage Treatment Plant 3.5 MLD Effluent Treatment Plant 2 MLD	Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction
Sewage Treatment Plant 3.5 MLD Effluent Treatment Plant 2 MLD Substation and Connection Cost	Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction
Sewage Treatment Plant 3.5 MLD Effluent Treatment Plant 2 MLD Substation and Connection Cost Cost of Street Light	Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction
Sewage Treatment Plant 3.5 MLD Effluent Treatment Plant 2 MLD Substation and Connection Cost Cost of Street Light Cost of Internal Roads	Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction
Sewage Treatment Plant 3.5 MLD Effluent Treatment Plant 2 MLD Substation and Connection Cost Cost of Street Light Cost of Internal Roads Rainwater Harvesting Wells at various Locations	Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction
Sewage Treatment Plant 3.5 MLD Effluent Treatment Plant 2 MLD Substation and Connection Cost Cost of Street Light Cost of Internal Roads Rainwater Harvesting Wells at various Locations Fire Fighting Vehicle & Special Equipment's	Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction
Sewage Treatment Plant 3.5 MLD Effluent Treatment Plant 2 MLD Substation and Connection Cost Cost of Street Light Cost of Internal Roads Rainwater Harvesting Wells at various Locations Fire Fighting Vehicle & Special Equipment's Ambulance & Special emergency Equipment's	Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction
Sorewell and Submersible Pumps Sewage Treatment Plant 3.5 MLD Effluent Treatment Plant 2 MLD Substation and Connection Cost Cost of Street Light Cost of Internal Roads Rainwater Harvesting Wells at various Locations Fire Fighting Vehicle & Special Equipment's Ambulance & Special emergency Equipment's Solid waste Dumping Truck 01. Nos and Equipment	Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction Included in Per Sq.Ft. Cost of construction





Financial Feasibility

6 Financial Feasibility of Project

6.1 Financial analysis

Detailed financial analysis has been carried out to ascertain the viability of jewellery park being setup by Gems and Jewellery Export Promotion Council (GJEPC). The financial viability of the project has been analyzed by calculating project NPV.

Primary and secondary studies were conducted to arrive at the market trends for cost of construction, period for developing the proposed constructed area and prevailing selling prices in the area of proposed construction. Further analysis was conducted to arrive at the possible sale period as per current market conditions after discussing with various real estate developers.

The financial analysis included identification of revenue and expenditure streams. Revenue will flow from one-time sale value of constructed units and plots, lease rental, and recovery of operating and maintenance charges from various stakeholders and occupants of Gems and Jewellery park. Major expenditure in the project shall be towards construction cost of these planned structures.

The financial analysis also covered aspects of financing the project through permissible grant, contributions made by members of GJEPC in the form of sale and lease revenue and GJEPC as one of the equity investors in the project and debt. The viability of the project is evaluated based on Net Present Value that the project provides on investments made and costs incurred. These returns are computed on a discounted cash flow basis, where both costs and revenues have been indexed to account for inflation.

The analysis is based on assumptions with regards to current financial environment, construction period, sales phasing whereas at the time of actual implementation the situation might be different altogether. However, it is pertinent to note that the assumptions may vary, and any different assumption may produce different financial results. The study has been undertaken keeping GJEPC's objective in consideration, whether investing into the project will be fruitful for the implementing SPV (India Jewellery Park, Mumbai) and the project should be able to establish an entire ecosystem for the Gems and Jewellery in Maharashtra and India.

Further, the project has been analyzed by introducing various scenarios (base, optimistic and pessimistic case) to arrive at various permutations and combinations which a project might face during actual implementation (explained later in the section).

6.2 Financial assumptions

The development plan for the project has been undertaken by keeping local by laws in consideration. Selling price, construction cost and other key assumptions related to project has been arrived at to keep the marketability / salability of the project i.e. the units can be sold or leased out as per the requirements of end user. The configuration of sizes for various industrial units has been arrived through stakeholder discussions, inputs from GJEPC and market research. The requirements of key players of existing value chain has been captured.



Construction phasing, sale phasing, escalations and other revenue/cost drivers has been calculated in a way that there should not be any negative cash balance at the end of each quarter. However, there might be situations where any quarter is having a negative cash flow but the same is covered through accumulated cash balance from previous quarters. Additionally, wherever there is shortfall of cash, debt has been assumed as one of contributor to fill that gap (revolver debt option has been adopted).

Basis the details provided, discussions with various stakeholders, inputs from industry experts and master planner, financial model has been prepared incorporating various components that shall be part of the upcoming project.

6.2.1 Proposed Conceptual Master Plan and Land Use statement for Industrial Buildings of G+14

In this the park is planned to have small to large built-up industrial units (major revenue driver) spread over 2 types of building structures, and industrial plots on sale. Other key components that have been considered for the park includes a dedicated space for firefighting, policy chowki, and a hospital. The project has been designed in a manner that it can consume a total of 3.00x Floor Space Index (FSI) at the plot.

It has been assumed that the buildings constructed for industrial units as well as for office space shall be launched for sales at the same time i.e. June 2023.



6.3 Project cost

Various key assumptions made for the purpose of calculating the Total Project Cost are as follows:

- The land price based on prevalent ready reckoner rate is INR 22,825/sq.mtr. and an additional MIDC tax rate of 10% and R/W charges of 5% on the ready reckoner has been applied for purpose of calculation. The land rate arrived after applying the charges comes to INR 26,249/sq.m which totals to INR 225.9 crore. The land would be acquired from MIDC in four installments (December 2021, December 2022,December 2023 and December 2024) as per proposed payment schedule sharedwith MIDC.
- It has been assumed that the construction would commence in the financial year 2022-23 (commencing in quarter 3 of FY 2022-23);
- The project has been assumed to be developed in 3 broad phases which consists construction of various types of buildings along with land development, and basement;
- The construction period has been assumed as 60-months for completion of entire project since MIDC (the landowner) shall be handing over the land to GJEPC in 4 installments as per payment schedule. Last installment for land shall be made by GJEPC in FY 2024-2025. Basis the payment made, IJPM (the implementing SPV) will gainthe possession of land;
- Cost of construction has been escalated by 3% (as per market trends) on a y-o-y basis.
- > Other key assumptions are detailed in the table below:

Particulars	Assumption	Underlying reasoning		
Construction start date	December 2022	GJEPC will start construction after gaining access of half the land after paying 2 nd installment towards land cost by December 2022.		
Construction / development period	5 years from the beginning of Phase I construction	As per experience/discussion with various developers' area of this scale generally takes around this much completion time.		
Capital expenditure	Installation of common utility services such as ETP, STP and other equipment to be shared by occupants.	Developed as part of plot development along with Phase I construction.		
Commercial operations date (COD)	June, 2028	The project has been planned to start partial operations at the park after the construction of Phase I has been completed.		

Table 29. Key assumptions for checking the viability of the project



Ground Floor	Consists in Building A, B and C	Ground floor of each building has been kept out of selling area as they shall be comprised of various utilities along with common area assumed at the project.
Cost escalation during construction period	3%	As per current market trends
Admin expenses and other overheads	12% of the sum of civil construction cost	Based on general project costing/experience.

The project cost is arrived at INR 1,827 crore, inclusive of land cost, construction cost, cost of common utilities, security systems, admin and marketing costs.

Table 30. Total project cost

Component	Cost (INR crore)
Land cost (incl. Stamp Duty & Registration)	250
Construction Cost	808
Support Infrastructure	387
Admin cost and other overheads	107
Sales & Marketing Cost	34
GST on Cost	241
Total	1,827



6.4 Land area and project plan

Maharashtra Industrial Development Corporation (MIDC) has allotted the ~86,053 sq.mtr. (21.3 acres) of land to GJEPC for the Gems and Jewellery project at TTC industrial area at Mahape, Navi Mumbai.

The plot area of 86,053 sq.m has been divided into 4 development categories with an assumption of 3.00x FSI available on the entire plot:

Construction Type	Structure / Plot area	Carpet Area/ (sqft)	Built-up area (sqft)
Building A	Ground + 14 floors of large and mediumindustrial units(interconnected wings); 2 level basements	20,13,778	26,78,236
Building B	Ground + 9 floors of small industrial units (interconnected wings): 2 level basements	2,66,425	4,86,011
Building C	Ground + 31 floors of office units (2 interconnected wings); 2 level basements	4,94,468	6,30,254
Building D	Firefighting, Policy Chowki, Hospital,	2,383	9,580

Table	31.	Proposed	construction	layout
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Туре	Carpet area (sqft)	Saleable area (sqft)*	Total units
Industrial Units	4,394	5,273	190
	3,691	4,429	190
	2,959	3,550	76
	2,226	2,672	76
	518	621	294
	344	413	280
Office Type 1	2,161	3,025	124
Office Type 2	1,763	2,469	124
Total Units			1,354

*20% loading factor has been considered on carpet area for industrial units of Building A and B. In the case of Building C, the loading factor is considered as 40%.



6.5 Construction phases and related costs

Given the large developable area it has been planned that the project shall be developed in 3 broad phases. The entire plot shall be developed in a span of 5 years from the initiation of construction for Phase I. Planned construction period for various phases has been explained in the table below:

Phases	Proposed built area (sqft)	Start Date	End Date	Construction / development period	Description
Site development*	9,26,298	Dec, 2022	Dec, 2023	12 months	Site levelling, boundary, landscaping and part development of area for common facilities
Phase I*	9,18,251	Dec, 2022	Dec, 2024	24 months	Internalroadconstruction,partconstructionofbasementareapartconstructionofamenityarea
Phase II	26,78,211	July, 2023	Dec, 2025	30 months	ConstructionofBuilding A (large andmediumindustrialunits),balanceconstructionofamenity area
	4,86,007	Mar, 2024	Sep, 2025	19 months	ConstructionofBuildingB(smallindustrialunits)andcommencementofconstructionofBuilding CState
	5,39,290	July, 2023	June, 2025	24 months	Constructionofbalancespaceforbasement
Phase III	9,580	Oct, 2025	Sep, 2026	12 months	Constructionofbuildingsforfirefighting,policychowki,hospitalgates
	6,30,248	Oct, 2025	Sep, 2027	24 months	Balance Construction of Office units (Building C) and industrial units (Buiding B)

Table 33. Construction phases

*Site development and phase I construction will move parallelly to each other.



Civil construction cost:

Туре	Cost (INR/sqft)
Building A	2,156
Building B	2,049
Building C	2,557
Amenities	1,789
Parking and Site development	1,706

The base cost for various structures has been derived based on market research, and discussions with various developers who have prior experience in constructing these types.

6.6 Financing assumption

Largest portion of project cost is assumed to be funded through advances from members of GJEPC against the booking of industrial units, purchasing individual plots and through lease rental model of industrial units.

The project shall be able to garner a grant of INR 20 crore through MSE-CDP scheme of central government for setting up the common facility centre (CFC). Deliberations with government authorities on the same are underway, hence due to covervatism the same is not considered as means of finance.

Funds required for the payment of first installment towards land purchase from MIDC has been assumed to be met through funds from GJEPC.

It has also been assumed that IJPM shall be requiring certain debt in the form of term loan/any other form of debt in case of shortage of funds for intervals where the collection/sales are less compared to actual expenditure or construction activity for that particular period.

Typically, the projects of this scale are partially funded through debt/loan from banks/financial institutions. However, during discussions, GJEPC was apprehensive of taking any external debt, and the same was not considered earlier but with subsequent analysis debt has been assumed as part of the project finance due to cash shortfall for certain intervals. In case the project achieves the expected sales much earlier than assumed it may happen that the project might not be needing any external funding in the form of debt.

Funds required	Amount (INR crore)
Project cost	1,827
Means of finance	
Advances from members	1,197
Debt	500
Contribution from GJEPC	130
Total	1,827



6.7 Estimated Revenue streams

Revenue streams

During stakeholder discussions, most of the potential occupants at Gems and Jewellery Park firmly agreed that they shall book a space at the park once the project gets launched.

The project has been designed keeping the requirements of large as well as small occupants. Many stakeholders were of the view that some part/units within the park should be kept for lease rental model while balance can be sold on outright basis.

Basis the discussions/assumptions, below are the expected revenue streams identified from the project (Base case):

- Total expected revenue from all the potential revenue streams is INR 2,480 crore inclusive of GST.
- > Sale of constructed Industrial units at 1st floor and above of Building A and B.
- Sale of units built for office space at Building C.
- Apart from sale/rental income from constructed space at park, the SPV is also expected to earn revenue from sale of additional car parking space to the occupants.

Below tables summarizes the potential revenue streams and the expected revenue collection:

Category	Average Selling Price (sqft)	Carpet area (sq.ft.)	Realized amount (INR crore)
Building A	7,522	20,13,778	1,433
Building B	7,850	2,65,196	208
Total			1,641

Table 34. Revenue drivers (Sale of industrial and commercial units)

Category	Туре	Average Selling price (sqft)	Saleable area (sqft) (carpet)	Realized amount (INR crore)
Building C	Office units	11,283	4,94,468	58



Table 35	. Revenue	drivers	(0&M	collection)
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Category	Realized amount (INR crore)
Revenue from Car Parks	98

- Primary as well secondary market research was conducted to ascertain the prevalent market rates at project vicinity.
- GJEPC's non-profit motive was considered while arriving at selling prices of each constructed category.
- The proposed selling prices (~INR 7,850/sqft) for industrial units on builtup area are much lower than average prevailing market rates (~INR 9,000/sqft to 9,500/sqft). This willbe beneficial for the members considering occupancy at the park.
- Selling price of one unit of parking space is assumed at INR 5,00,00/-
- Revenue has been derived through construction linked payment mechanism and below is the assumption for collection schedule (percentage):

Category	Booking + Agreement	Plinth	Slab 1	Slab 2	Slab 3	Structure & Plaster, Flooring, etc.	Electric work, plumbing, tiling, etc.	Possession
Construction completed	10	05	10	12	12	18	18	15
Cumulative collection	10	15	25	37	49	67	85	100

Collection period may vary for different type of units sold.

In addition, time linked payment was also analyzed as of one of the payment collection mechanism during analysis where an upfront payment (\sim 20%) followed by 10 equated installments of (\sim 8%) of sales value has been assumed for various components sold.



6.8 Sales Phasing

Sales for each category have been planned to be launched in 2023 after beginning of construction activity for phase 1 and below is the assumption for beginning of sales period:

- Building A April 2023
- Building B April 2023
- Building C April 2023

Sales for all the categories put together is expected to get completed in 26 quarters from the initiation of contruction activity for the project and below is the quarter-wise assumption for sales phasing (in percentage):

Category	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Building A			5	5	5	6	10	6	9	6	7	9	2	2	1	1	1	2	2	2	3	2	2	2	5	5			
Building B			5	5	5	6	10	6	9	6	7	9	2	2	1	1	1	2	2	2	2	2	3	3	5	4			
Building C (Office Building)			5	5	5	6	10	6	9	6	7	9	2	2	1	1	1	2	2	2	2	2	3	3	5	4			

- > Occupancy for various categories has been assumed to begin from quarter after completion of construction activity for that segment.
- The construction activity has been assumed to start by December 2022 and it has been assumed that IJPM shall be launching all the buildings i.e.Building A, B and C for sales in April 2023.
- It has been assumed that IJPM shall be required to avail debt (in the form of term loan or any other instrument) from December 2022 due to paucity of funds for continuing the construction activity.

6.8.1 Selling of space

Below tables represent the assumptions about the space that IJPM shall be able to sell of various structures as per base case assumption (in sq.ft. '000):

Cate	Jun-	Sep-	Dec-	Mar-																				
gory	23	23	23	24	24	24	24	25	25	25	25	26	26	26	26	27	27	27	27	28	28	28	28	29
Bldg A	101	101	101	121	201	121	181	121	141	181	40	40	20	20	20	40	40	40	60	40	40	40	101	101

Cate	Jun-	Sep-	Dec-	Mar-																				
gory	23	23	23	24	24	24	24	25	25	25	25	26	26	26	26	27	27	27	27	28	28	28	28	29
Bldg B	13	13	13	16	27	16	24	16	19	24	5	5	3	3	3	5	5	5	5	5	8	8	13	11

Cate	Jun-	Sep-	Dec-	Mar-																				
gory	23	23	23	24	24	24	24	25	25	25	25	26	26	26	26	27	27	27	27	28	28	28	28	29
Bldg C	25	25	25	30	49	30	45	30	35	45	10	10	5	5	5	10	10	10	10	10	15	15	25	20

6.9 Expenses assumption

Operating & Maintenance

Manpower

It has been proposed that the park shall be run by an operating team on ground consisting of a CEO, team of accounting staff, and admin staff who will manage the day-to-day operations. Apart from key staff directly employed by the SPV, most of other staff for housekeeping, security and other managed services should be outsourced.

Electricity and Power

Power substation has already been established at the proposed site of MIDC. As per early estimates power requirement of ~33.5MW has been established that shall be required to power common areas at the park



6.10 Infrastructure Components

The Gems and Jewellery park shall have various infrastructure components which IJPM (the implementing SPV) shall be developing as part of overall project. These infrastructure components shall be owned and maintained by IJPM. Below table represent proposed infrastructure planned at the park:

Sr.No.	Infrastructure	Components
1.	Support Services	 Administration & Park management offices Security management & systems Service provider's offices such as Banks, Logistics, Canteen services, etc. Conference and exhibition halls
2.	Physical/Utility Infrastructure	 Effluent Treatment Plant Water treatment plant including water supply system Sewerage collection system Solid waste management Road network & storm water drainage Landscaping Rain harvesting system Street lighting system Electrical distribution system Power backup systems (DG sets)



6.11 Financial model with projections for 7 years

36. Project Profit & Loss Account - Operating Sheet (INR crore)

Project Profit & Loss Statement	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Dorticulors INP	01-Apr-21	01-Apr-22	01-Apr-23	01-Apr-24	01-Apr-25	01-Apr-26	01-Apr-27	01-Apr-28
	31-Mar-22	31-Mar-23	31-Mar-24	31-Mar-25	31-Mar-26	31-Mar-27	31-Mar-28	31-Mar-29
Sales Revenue						1,667	312	317
Cost of Construction								
Land Cost	70	58	58	58	6	-	-	-
Construction cost	-	32	181	238	221	113	23	-
Admin Cost & other Overheads	-	3	7	29	27	-	-	-
Sales & Mktng Cost	-	3	5	5	8	-	-	-
Cost for amenity, parking and support structures	-	36	93	177	81	-	-	-
Interest Cost (IDC)	-	1	16	39	41			
Total	70	133	360	546	384	113	23	-
Add: Opening Work In Progress		70	203	563	1,109	1,494	333	263
Less: Closing Work In Progress	70	203	563	1,109	1,494	333	263	-
Total cost of construction recognised	-	-	-	-	-	1,273	93	263
Interest cost						30	18	7
Admin & Selling Exps						22	16	16
Total Cost						1,325	128	286
Profit before Tax						342	184	31
Тах						96	52	9
Profit after Tax						246	133	22



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Table 37. Balance Sheet (INR crore)

Project Balance Sheet	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Particulars INR	01-Apr-21	01-Apr-22	01-Apr-23	01-Apr-24	01-Apr-25	01-Apr-26	01-Apr-27	01-Apr-28
	31-Mar-22	31-Mar-23	31-Mar-24	31-Mar-25	31-Mar-26	31-Mar-27	31-Mar-28	31-Mar-29
Liabilities								
Promoters Contribution	70	130	130	130	130	130	130	130
Reserves and Surplus						246	379	401
Secured Borrowings	-	90	375	500	375	250	125	-
Other Current Liabilities								
Advance from Buyers	-	-	131	638	1,430	134	159	
Provision for Tax						96	148	158
Total Liabilities	70	220	636	1,268	1,935	856	941	689
Assets								
WIP	70	203	563	1,109	1,494	333	263	-
Other Current Assets								
Cash And Bank Balances		4	8	13	235	293	440	632
GST	-	13	65	146	206	231	238	57
Income Tax								
Total Assets	70	220	636	1,268	1,935	856	941	689

		Tabl	le 38. Cash Fl	ow (INR crore	?)				
		FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Darticulars INP		01-Apr-21	01-Apr-22	01-Apr-23	01-Apr-24	01-Apr-25	01-Apr-26	01-Apr-27	01-Apr-28
	Total	31-Mar-22	31-Mar-23	31-Mar-24	31-Mar-25	31-Mar-26	31-Mar-27	31-Mar-28	31-Mar-29
No of Units Sold	1,391	-	-	292	431	278	70	117	203
Area Sold (in Sq ft in '000)	2,773	-	-	582	860	555	139	242	396
% Sold	100%	0%	0%	21%	31%	20%	5%	9%	14%
Inflows									
Sales (INR Cr)	2,199	-	-	118	463	722	326	283	288
Revenue from Additional Car Parks (INR Cr)	98	-	-	4	7	11	18	29	29
Collection without GST (INR Cr)	2,297	-	-	121	470	733	343	312	317
GST on Collection	184	-	-	10	38	59	27	25	25
TOTAL COLLECTION (INR CR)	2,480	-	-	131	507	791	371	337	343
	2 400			101	507	701	271	227	242
Total collection (live Cr)	2,480	-	-	131	507	/91	371	537	343
Outflows									
Land Cost (INR Cr)	250	70	58	58	58	6	-	-	-
Construction cost (INR Cr)	808	-	32	181	238	221	113	23	-
Admin Cost & other Overheads	107	-	3	7	29	27	18	12	12
Sales & Mktng Cost (INR Cr)	34	-	3	5	5	8	4	4	4
Cost for amenity, parking and support structures (INR Cr)	387		36	93	177	81	-	-	-
Cost (INR Cr)	1,586	70	132	345	507	344	134	39	16
GST on cost	241	-	13	52	81	61	24	7	3
Total Cost to be incurred (INR Cr)	1,827	70	145	396	588	404	158	46	19
Net Operating Cash Flows	653	-70	-145	-265	-81	387	213	291	324
GJEPC Contibution	130	70	60	-	-	-	-	-	-
Construction loan inflow	500	-	90	285	125	-	-	-	-
Interest on construction loan	152	-	1	16	39	41	30	18	7
Repayment of construction loan	500	-	-	-	-	125	125	125	125
Net cash-flows	632	0	4	4	5	221	58	147	192
Cumulative Net Cash Flows		0	4	8	13	235	293	440	632



- It has been assumed that GJEPC shall be paying the first installment towards land payment by March 2022.
- As per the assumptions there would be a need of ~INR 90 crore of debt in the financial year 2025 and ~INR 285 crore in financial year 2026 and ~INR 125 crore in financial year 2027, as the collection from all the revenue streams falls short as compared to expected expenditure.
- In case IJPM achieves the sales earlier than estimated and similarly the collection is received by the SPV then this cash flow mismatch can get resolved.

6.12 Financial Dashboard

Component	Specifications
Carpet Area (sq.ft.)	 Building A: 20,13,778 Building B: 2,66,425 Building C: 4,94,468
Saleable Area(sq.ft.)	 Building A: 23,16,342 Building B: 3,01,486 Building C: 6,81,267
Cost of construction(including all project expenses) - As per carpet area	▶ INR 6,587 / sq.ft.
Sale price - As per carpet area (INR/sq.ft)	 Building A: 7,522 Building B: 7,850 Building C: 11,283
Profit margin(INR/sq.ft.)	 Building A: 935 Building B: 1263 Building C: 4,696

6.13 Estimated Investments

Investments are estimated for industrial units (1446 units) planned. The direct employment generated from the manufacturing units in the proposed Gems and Jewellery park is approximately 57532 people. Total Population estimated for the Project is 80,000 people including commercial development, ancillary services and floating population. The Development shall give boost to the region and surrounding areas. Further, position the jewellery parkas a community partner in the adjoining areas and the district.

6.14 Conclusion

Based on assumptions, the project is generating enough cash over the projection period and the investment made by GJEPC can be paid back through that cash buffer. The project is viable and IJPM, the SPV shall be able to purchase the area to be given on lease through the cash generated by the project.

Although IRR has been calculated based on financial assumptions but that is not a true representative in such type of projects where no significant upfront payment has been incurred by the implementing SPV as compared to the revenue earned and costs incurred on the project. NPV is considered as one of the optimal ways to arrive at project viability in such cases. Project's NPV has been calculated in such a manner that it should result into a positive number from GJEPC's point of view barring an extreme negative case where selling prices reduces by 20% from assumed levels.

Another reason for considering NPV as the optimal way to evaluate the project is that very little capex has been assumed as compared to the overall built up area (largest part of overall project cost spent over the construction period), however if this would have been a purely plot sale model along with setting up the common facilities, IRR would have shown a more realistic picture.
6.15 Risk Analysis and Mitigation Strategies

6.15.1 Preamble

Project risk must be identified, evaluated, and managed throughout a project's life for the project to be successful. Management of risks requires GJEPC and IJPM to proactively address potential obstacles that may hinder project success, as well as take advantage of opportunities to enhance success or save costs. A detailed risk allocation and mitigation strategy is discussed in this section.

6.15.2 Risk Analysis and Risk Management

Risks are inherent in any project. They cannot be eliminated entirely, but many of them can be anticipated and subsequently reduced. Due to the dynamic nature of the project, risks will change. Thus, risk identification is an iterative process that continues throughout the project life cycle.

Risk management is the process of identifying risks, implementing strategies to manage risks and designing contingency plans to supplement risk management strategies if risks begin to affect project success. The diagram below depicts a risk management approach.

Figure 66. Risk Management Approach



Risk Identification: Deviation in established technical performance measures and key program indicators triggers the risk identifications.

Risk Assessment: Program management mechanism considering all aspects like planning, designing, implementations would be established for assessing the risk.

Risk Mitigation: Risk mapping and predefined measure would be considered. Further consultations with all stakeholders would be deliberated.

Risk tracking and reporting: A management information system with tracking and reporting would be established for reducing the risks.



For ease of understanding risks have been classified at 3 stages (i) Conceptualization stage (ii) Construction stage (iii) Operationalization stage.

Risk Assessment				
Stakeholders	Conceptualization State	Construction Stage	Operationalization stage	
IJPM / Private Partner	 Stringent timelines High performance and quality expectations Unavailability of data and incomplete approval 	 High performance and quality expectations Stringent timelines Incomplete approvals Variations by client 	 High performance and quality expectations Demand risk Payment default risk Environmental and safety risk 	
Contractors	 Approval riskfrom inter dept, and Gol Price inflation Interest rate fluctuations 	 Inadequate data Design variations Inadequate program scheduling Variations in construction Lack of coordination b/w contractors Management competency of contractors Unavailability of skilled labour Cash flow management Occurrence of dispute Safety management during construction 	 Approvals from Government Change in law Force majeure Government/tenant/private 	

Table 40. Risk Assessment



Risk	Brief	Mitigation
Conceptualization	Stage	
Stringent timelines	The project delays are majorly due to land allotment, approvals, etc	 Post allotment of land from MIDC, the project is expected to be completed over a period of 84 months that include all inter and intra department approvals. Selection of renowned Project Implementation agency to represent and pursuance of approval closely monitoring the progress would mitigate this risk.
High Performance and Quality Expectations	 It is very common expectation by client, this may however mean the sacrifice of project cost, time and even safety. The outcome of the project may also outreach the market or the clients' needs. 	 The performance/ quality of the proposed project components are rationalized to meet the objectives and vision for the gold industry in Maharashtra over the period of time. The vision and objectives themselves should be defined for very high performance and quality expectations of the gold industry.
Approval risk from Inter Dept, and Gol	This refers to the risk of delay in various approvals that are required from various state, local development and municipal agencies. Permitting issues stemming from a lack of preparedness or from difficulties caused by the project's design can cause considerable delays and additional costs.	Obtaining requisite planning and construction approvals requires extensive liasioning with various Government Authorities. The SPV is better suited to obtain requisite approvals and clearances to mitigate the delay of approval risk. Therefore, one of the key components of the scope of work of SPV is to obtain requisite planning and building approvals for the complete land.
Financing the project	The project has been assumed to be developed with the availing the support from government as well.	Government liasioning and support for availing central and state incentives right from beginning of the project as the timelines extend for more than a year for availing the funds.
Inflation and Interest rate fluctuation risk	 This risk is very common due to market fluctuation and Government monitory policies. 	This risk can be mitigated by adherence with project timelines.
Construction Stage	e Most common viele during the	
variations Dy client	Most common risk during the construction stage, will result variations in the planning, design and construction.	 IJPM will engage vide ranging consultants for the based-on project requirements and the business profile of the Jewellery Park. The project requirements provide for appropriate cushion for future additions and hence risk of time over-run will be minimal in case of such variations



Inadequate data		Inadequate site data can affect the progress of excavation, foundation and construction.		Topographical survey, Geographical survey of the site shall be completed. Other surveys incl. detailed soil investigations as may be necessary shall be conducted well in advance not to affect the project progress.
Inaccurate cost estimates	•	Created due to design variations, Technology changes, unforeseen factors which are considered during the financial analysis.	•	Detailed cost estimates complete to the extent of all envisaged project component have been prepared. IJPM shall appoint Environmental Consultant to assist in obtaining necessary environmental clearances/ approvals from State/ Central Govt. agencies (as the case may be).
Lack of coordination between the contractors		Created due to engaging multiple contractors for similar works		A proper communication channel would be created by quality management consultant for communication flow. Project bundling for similar works would be adopted to mitigate these risks.
Competency of contractors		May result delays in construction, compromise in quality expectations.	•	Verification of organisational capabilities and site organisation shall be part of the contractor selection process. Contractors' site supervision teams shall be entrusted with the responsibility of coordinating with the SPV, Project Manager and other agencies on the day- to-day management of availability and requirements of material land resources.
Cashflow management		Timely availability of cash flows and unutilized released funds major risk for the project.		The grant from Gol will be available as the project progresses. The SPV and its promoters have the capability on their own and through Banks/ Financial institutions to arrange for the necessary finances for the implementation of the project. To ensure that the monies raised by the SPV from the Units by way of non- refundable deposits, Gol's grant and term loans would be utilized in a transparent manner for authorized expenditure during the project implementation and operations phase, a suitable Trust and Retention Account (TRA) framework would be deployed. The SPV shall open and maintain TRA with a Bank designated as TRA Agent for escrowing all funds flow/ cash flows of the SPV during the project implementation stage and at the



		operating stage at project implement Payments towards expenses in the sp to construction co suppliers, administ against loans raise shareholders of the necessarily be applicable.	ter completion of tation. s all eligible project becified order of priority ontractors, equipment stration & salaries, EMIs ed by SPV, dividends to be SPV etc., shall proved by the technical , SPV Board or as
Operationalizatio	n Stage		
Sale phasing	 Significant portion of funds available comes through internal accruals (i.e. sale of units to GJEPC members) 	 Early stakeholder awareness among mitigate this risk. 	engagement for project st members shall
Demand risk	This refers to the risk that the project does not achieve projected revenues. This would negatively affect the project's cash flows and to repay debt and generate sufficient returns. The revenues could be affected due various factors such as macro- economic factors, fall in demand, competing facilities, high rentals etc.	Project's success revenues it can ge comprehensive m be adopted and ir units in Jewellery Industrial policy a will be made appl industries.	is dependent on the enerate. A arketing strategy would nplemented to setup Park. Benefits of and other state policies licable for establishing
Payment default risk	This risk borne by the SPV in case private partner faces financial difficulties preventing it from making payment to the SPV according to the Development Agreement. This could be due to several factors including competition from other player, market uncertainties, and product acceptance by the market.	 IJPM to recover the and License Agree individual member Fixed Infrastructur part of the costs the and asset replace apportioned to all allocable area, are units to whom bur leased. Monthly Variable monthly consump water, power and together with var SPV apportioned to allocable area to alloc	heir costs under a Leave ement with the rs as described below: re Charges covering cowards debt servicing ment of the SPV l units on the basis of id Lease Rentals from ilt-up space has been Utility Charge based on tion of utilities such as sewerage treatment iable expenses of the to all units on the basis to each of the units.
Environmental and safety risk	Environmental risks are actual or potential threat of adverse effects on living organisms and the environment by effluents, emissions, wastes, resource depletion, etc., arising out of an Industrial activity. Further	This risk can be m Red category indu Area. Only Orange industries would b the industrial part standardized mec	itigated by not allowing Istry in the Industrial and Green category be allowed to set up in k. Further a hanism would be



	Accident occurrence on site is usually due to lack of project management, negligence of construction safety policy and confliction of unparallel construction programs resulting in disputes, personnel change, impediment to construction progress	•	adopted for Operationalization of Industry. During the Construction and operationalization period the contract documentation shall appropriately include health, safety and environment management practices that the contractor shall necessarily adhere Contractors shall be insisted upon to establish a systematic construction program scheduling and provide safety training to on-site staff to improve their awareness of safety liabilities including third party shall be clearly defined in the contract document with mandatory provisions for insurance.
Change in law 🕨	It refers to risk related to change in laws that can adversely affect the project.		The risk lies with the SPV as it requires significant amount of laisoning between different departments of the Government to reduce the exposure to such risks. GJEPC and MIDC being the authority is better placed to handle this risk.
Force Majeure	It refers to risks of events taking place that are beyond the control of either parties such as wars, civil unrest, nuclear explosion, epidemic etc. within or in vicinity of the project site.		The risk has to be borne by all the SPV partners as it is beyond control of either. There would be detailed provisions in the development agreement on the conditions that would be triggering the force majeure clauses by either partner. Suitable insurance cover would be obtained for insurable force majeure events.
Government/Te nants/Private Default	Very common in projects		It can be avoided through arbitration mechanism.





Project Development Strategy

7 Project Development and Marketing Strategy

Key project development steps and agencies involved have been listed in the following chapter alongwith marketing strategies for the project.

7.1 Project Development Steps

Once the feasibility of the project is established some of the key steps for development the project isas follows

Step 1 - Preparation of Detailed Project Report (DPR)

Step 2 - Approval of DPR by State and Central Body

Step 3 - Application of Statutory approvals and clearances including environmental (consent toestablish)

Step 4 - Preparation of Detailed Master Plan and Architectural design

Step 5 - Appointment of Developer - Selection of suitable strategic private partner is of utmost importance for the successful implementation of the project. The Project Support Unit will assist in project structuring and bid process management for selection of private partner

Step 6 - Appointment of Independent Engineer/ Proof Consultant

Various agencies are required to provide services for successful completion of the project in respect of the following (indicative):

- 1. Architectural Design Agency for preparation of design brief; site evaluation, analysis and impact of existing and / or proposed development; Design and site development.
- 2. Structural Design Agency for Structural design.
- 3. Plumbing Design Agency for Sanitary, plumbing, drainage, water supply and sewerage design.
- 4. Electrical Design Agency for Electrical, electronic, communication systems and design.
- 5. HVAC Design Agency for Heating, ventilation and air conditioning design (HVAC) and other mechanical systems.
- 6. Mechanical Design Agency for Elevators, escalators, etc.
- 7. Fire Safety Design Agency for Fire detection, Fire protection and Security systems etc.
- 8. Landscape Design Agency for various landscape design required for the project.
- 9. Graphic Design Agency for various signage and related services for the project.
- 10. Environmental Consultant for EIA if required for the Project.
- 11. All agencies for Periodic inspection and evaluation during Construction works.



Parameter	Description
	The park is expected to be developed in 7 years consisting 3 phases post initiation in March 2021.
Construction	First phase consists of site development while phase two and three consists of constructing various building structures.
	 Units types considered at project site is assumed after stakeholder consultation and market survey.
Units Configuration	Smallest to largest units ranges between 500 sqft to 3,500 sqft of saleable area with an estimated starting price of INR 30 lakh (~INR 5,500 - 6,500 INR/sqft).
	 The project shall be developed with an estimated cost of ~INR 1,400 - 1,500 crore.
	 Major components of project costs are land (~INR 225 crore and construction costs of ~INR 1,100 crore).
Project Costs	Other important infrastructure requirements such as ETP, STP, rainwater harvesting system, security systems and other common facilities shall consume the balance of the project costs.
	IJPPM's major revenue source shall be through selling the builtup units (Karkhanas), land portions (for individual karkhanas), commercial shops/offices, land for proposed hotel, leasing/renting of smaller Karkhanas and through O&M charges being levied to the occupants.
Revenue Streams	 Total estimated revenue from all the possible sources is estimated to be ~INR 2,200 - 2,700 crore. (as per base case assumptions).
	The project shall majorly be financed through advances received from GJEPC members who will book/purchase individual units, shops, land portions.
Project Finance	 Grant through Micro and Small Enterprises Cluster Development Programme (MSE-CDP) MSE-CDP scheme shall also be available to the project.
	 GJEPC shall be investing seed money to kick start the project.
	Remaining portion shall be funded through debt in the case of shortage of funds and debt is expected to be paid off during the construction period of the park.

Table 42. Envisaged Project Development Strategy



Sales Phasing



Facility Management



Financial Viability

- Sales of various components has been assumed to start one quarter prior of the construction activity of a particular segment.
- Building comprising of industrial units shall be sold at the beginning of project launch.
- Sales phasing has been considered aftermarket study, recent trends and past experience.
- Project SPV formed: India Jewellery Park, Mumbai
- Park shall be managed by a professional manpower team consisting of CEO and other supporting staff who shall be responsible for day to day affairs.
- As per preliminary study and various assumptions the park project seems viable (generates a positive NPV) and have received positive response from potential occupants.
- A sensitivity analysis was also considered to check whether in any unwanted conditions the park would still be able to at least recover the cost of setting up the same.

7.2 Marketing strategy

The Gems & Jewellery park has strong inherent advantage for potential demand of the industrial units being set up. Jewellery Park will contribute to the economic development of both Maharashtra and India, by facilitating investment, manufacturing, employment of manpower, trade and exports. This dynamic venture will provide effective support to jewellery manufacturers/traders who are interested to relocate, expand or invest in the state of Maharashtra. The success of park hinges on innovative efforts and constant interaction with prospective tenants and investors.

Objective:

The objective is to successfully establish the Park and market the space for setting up of the industrial/gems & jewellery processing units. The aim is to market the available space for units in the first three years with the major bulk in the very first year.

Product positioning:

The features of the Gems & Jewellery Park are well defined in previous chapter. The product will be positioned to highlight the following advantages:

- First of Kind highly secured all under one roof manufacturing zone for gems & jewellery
- Competitive built up space/ land cost with shared cost of common facilities
- > Complex ensuring low investment per unit of production and transaction cost
- Facilitating regulatory environment with single window clearance and access to MSME schemes enabling trade and business environment



- > Promotion of handmade jewellery making and tourism avenues
- Industrial park which works round the clock
- > Adequately networked for power and water availability
- Complex with world standard centralized Facilities with self-content units promoting healthier work environment

Target market:

- Zaveri Bazaar Units
- Units located in Dahisar, MIDC, Dadar, Lower Parel and Bandra region of Mumbai city and suburban districts
- > Leading players outside Greater Mumbai Region
- Leading players outside Maharashtra

Promotion strategies:

Market pitch - The marketing pitch will revolve around the key park features described earlier, primarily being the first integrated complex of India. The marketing pitch will revolve around providing assistance from government to create a Gems & Jewellery industry complete with all the facilities of hard & soft infrastructure as what one is accustomed to in a cluster.

- Grab the first mover advantage
- ► To be marketed as first integrated focused gems& jewellery park. Make announcements, promote on social media, direct marketing of the project to reap first mover advantage.
- Attract big anchor tenants
- A credible large business house spreads the efficacy of the location and Industrial Park and advocates and endorses his confidence

The key elements of this strategy are shown below.



Actively promote Gem and Jewellery Park in all the events and seminars of the GJEPC, IJPM and other jewellery associations



Investment promotion for the jewellery park in both domestic and national market



Host the IIJS Premiere and Signature shows at the jewellery park to attract investors from India and overseas



Partnership with banks for easy financing options



Facilitate regulatory environment with single window clearance and access to Government schemes enabling trade and business environment



Partnering with global institutions for training and skill development of Karigars



Facilitate in identifying accommodation and promoting healthier work environment for Karigars

Indicative approach to be adopted for aggressive marketing is spread across four phases during a tenure of 24 months.



1	2	3	4
Phase 1: Formation	Phase 2: Roll Out	Phase 3: Roll Out	Phase 4: Sustained
2 Months	3 Months	6 Months	13 Months

Ago	Aggressive Marketing				
Formation	2 Months	 Prepare detailed Marketing Strategy Prepare Marketing Collaterals Pitch presentations, collaterals, brochures, smart reports, speeches, articles, newsletters, website and web content Prepare Other Critical Documents Collation of policies, agreements etc. Selection of 3rd party agencies (Media, PR etc.) 			
Dut	3 Months	 Support to organize promotion events Assist in signing MoUs, streategic tie-ups Facilitation in mobilizing private & Govt, bodies 			
Roll (6 Months	 Updating and customizing marketing collaterals Support to organize promotion events Support for participation in international events Continued support for signing MoUs, streategic tie-ups 			
Sustained	13 Months	Continued support to activities mentioned in Roll Out phase			
Deliverables		 Detailed Marketing Strategy Client Account Management guideline Marketing Collaterals Collation of climacteric documents MoUs, tie-ups, collaborations 			

Communication strategy:



- Organize sensitization workshops with Zaveri Bazaar to update about project USPs and advantages.
- Promote as key project during Magnetic Maharashtra Investor Summit. Create shelf of projects to market across the State and Country to attract investors
- Develop Gems & Jewellery Park advantage document in various formats - brochure/ e-mailer/ direct mailer/ presentation/ video
- Organize inauguration events, make media announcements, organise interviews with electronic media, publish write ups
- Meet select large players (who in all probability are going ahead with new ventures) personally and make the pitch.



- Conduct roadshows to promote and create awareness in the industry in specific clusters
- The selling strategy will hinge on direct marketing with direct mailers and personal visits straight at the doorsteps of each of the prospective investor.



7.3 Development Control Guidelines for the India Jewellery Park

A project specific development control guideline to be formulated in compliance with existing rules and regulations but further defining and enhancing the image of the envisaged jewellery park. The guideline should encompass the following but not limited to:

- The design of the park shall accommodate the permissible FSI 3.0 (and if more FSI is sanctioned then FSI 4.0).
- State-of-Art Building and infrastructure shall be designed to obtain and uphold the IMAGE of the park at national and international level.
- Overall urban design guideline shall be made to achieve homogeneous built environment for the entire park.
- Fire Safety and Security shall be the utmost priority of the design of the park.
- > Adequate health and emergency facility shall be provided within the park.



- Maximum use of renewable energy and reuse of wastewater to be considered for the common facilities of the park.
- Adequate green infrastructure shall be provided for the better working environment within the park. Number of trees to be adequately planted to compensate the built environment.
- > No wastewater shall be discharge in public drains without treatment in CETP of the park.
- Parking requirement shall be met over and above the guidelines of regulatory authority due to nature of industrial activity. For jewellery manufacturing sector, developer should calculate the precise requirement of parking for four, two and non-motorized vehicles based on benchmarking from present cases.

7.4 State Government support to be availed for Project

Indicative support that can be availed from Maharashtra Industrial Development Corporation (MIDC) is extension of necessary support for clearance and setting up of the proposed Gems and Jewellery Park at Mahape in Navi Mumbai. The key support from MIDC are as follows:

- ▶ Grant of status of Ultra-mega Project to the Gems and Jewellery Park.
- Power tariff subsidy.
- Stamp duty exemption.
- Allowance of FSI 4.
- Support in setting up of substation in the jewellery park
- Drawing parallel from IT parks, permission of 24x7 operations and working of the proposed jewellery park.
- Minimum free from encumbrance Land of 21 acre (84,984 sqm) and Waving off all service charges from MIDC till the project commences full commercial production.

Further support from the State government may be requested through extension of benefits to other sectors through relevant polices may be extended to Gems and Jewellery park as listed below:

- Extension of incentives offered under the Package Scheme of Incentives 2019 of Maharashtra for Ultra-mega project to the proposed Jewellery park.
- Extension of incentives to Textiles and Electronics sector under the 'Policy for Industrial Parks comprising of flatted galas for Readymade Garment manufacturing, Gems and Jewellery, Micro Electronics and Engineering units-2018' to the proposed Gems and Jewellery Park.
- Since Gem and Jewellery industry is a non-polluting industry, grant of incentives and exemptions extended to IT parks under IT/ITeS Policy.
- Residential facility for Karigars in near vicinity (e.g. Shil Phata road) of project under PMAY scheme (approx. for 20,000 workers).
- The jewellery park should be given concessions in payment of various charges such as water, electricity, firefighting cess, etc.



- Interest subsidy to MSMEs which will be payable on interest paid to banks on term loans for fixed assets after certain deduction.
- Special Grant of Tourism concession for the Gems & Jewellery sector for Tourism promotion.
- Single Window clearance for all permissions and licenses required for establishing the park and for manufacturing units:
 - a. One time Licenses (more than 18 required) Consent to Establish (MPCB), Height Clearance (AAI), Provident Fund registration, ESIC registration, Professional Tax registration, PAN/TAN registration, Industrial Enterprenual Memorandum (IEM), Sales registration, Sales registration, Building Completion Certificate / Occupation Certificate, Plan approved by MIDC/local authority, Drainage Completion Certificate (MIDC), Power Approval (MIDC), NOC from Fire Department/ Fire Brigade, Water Connection approval, Building Plan Approval (DISH), NOC by Environment Department, Lift License, etc.
 - b. Quarterly and Yearly Licenses (more than 7 required) Overtime permission (DISH), Consent to Operate (MPCB), Factory License (DISH), Bombay Shops and Establishment License, Certificate from Register of Company for Commencement of Business, Factory Permit, etc.
- Quick and priority disbursal of incentives to eligible industrial units of the IJPM under new Industrial Policy of Maharashtra 2019.
- Special Incentives by Cabinet Sub Committee for industry, under the chairmanship of the Hon'ble Chief Minister of Maharashtra to sanction customized package of incentives and even offer special / Extra Incentives for such a prestigious Project.





Annexure 1: Jewellery Manufacturing Process and Stakeholders

Figure 6. Gold Jewellery Manufacturing Process and Stakeholders



Figure 52. Diamond Jewellery Manufacturing Process and Stakeholders





Figure 53. Gemstones Jewellery Manufacturing Process and Stakeholders





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Annexure 2: Discussion with Stakeholders (Physical Survey)

1. Minutes of Meeting - Members of Gem and Jewellery Export Promotion Council (GJEPC)

1.1 Kick off meeting for Gems and Jewellery project with GJEPC

Date of Meeting	:	31 July 2020
Time	:	14:30hrs to 16:00hrs
Venue	:	Online Video Conference (Zoom meeting)

Meeting Attendees:

Organization	Name & Designation			
Gem & Jewellery Export Promotion Council (GJEPC)	 Mr. Vipul Shah, Chairman Mr. Sabyasachi Ray, Executive Director Mr. Sandeep Sharma, Chief Financial Officer Mr. Bijal Shah, Director - Accounts Mr. Murtuza Kalyanwala, Sr. Manager, Legal & Secretarial Compliance Mr. Mansukh Kothari, Member Mr. Kirit Bhansali, Member 			
Ernst & Young LLP	 Ms. Shuchi Trivedi, Director Ms. Keshika, Vice President Mr. Navreet S Beling, Vice President Mr. Ritesh Baijal, Manager Ms. Vandana Pratap, Senior Consultant Mr. Sarim Khan, Consultant 			
EcoUrbs Consultants Pvt. Ltd. (Technical Consultants to EY)	 Mr. Utpal Sharma, Team Lead Mr. Nirav makwana, Director Ms. Ankita Sharma, Project Coordinator 			

Meeting Agenda:

Kick off meeting for 'Detailed Project Report - Gems and Jewellery Park in Mahape, Navi Mumbai' to discuss project details, validate the requirements of the assignment with the key officials and establish a common understanding of the expectation from the project, ensure team alignment and further course of action.

Key Discussion Points:



The meeting kick started with opening remarks and a brief background of the project from Mr. Ray. Further Mr. Kothari gave insights about the Zaveri Bazar in Mumbai. EY and Ecourbs presented questions to get clarity on the project documents provided by GJEPC for a better project understanding and client expectations.

- 1. Gems and Jewellery industry has three broad categories Diamond, Gems and Gold Jewellery (where Gold Jewellery is further bifurcated into Plain and Studded Jewellery, Studded jewellery now Mechanized and Plain jewellery still Handmade).
- 2. The whole industry functions in clusters, like Diamond cluster in Surat, Gujarat and Mumbai. The industry has gone into forward integration because of better understanding of the value addition component in the steps of the value chain process e.g. SEEPZ, Mumbai exports jewellery worth USD 2.4 Bn. The compelling success of the cluster model and the freedom given to industry players in the clusters has led to the idea of creating a Jewellery Park, a manufacturing zone.
- 3. The Zaveri Bazar in Mumbai, oldest and the largest wholesale market of Gold jewellery has around 8,000 to 12,000 units currently operating in and around the Bazar. 60-70% of the trade happens from the Zaveri Bazar only. The key challenges faced by the people working at Zaveri Bazar are poor infrastructure, poor building conditions, fire hazards, environmental issues in cleaning processes, commuting issues due to congestion, high land cost and security concerns. At present 50-60% property is owned using Pagdi system (run by landlords) and not the actual ownership in Zaveri Bazar. This has created a demand for an organised cluster with a better working environmentand trade facilities from big clusters like Zaveri Bazar and other small clusters from Lower Parel, Sewri, Andheri, Dahisar and Borivali.
- 4. There is a need of organizing the backend and the issues faced by the industry. The primary objective of the project is to organize the whole industry and house both handmade and mechanized jewellery units under one roof i.e. facilitating the relevant stakeholders from Zaveri Bazar to the Gems and Jewellery Park in Mahape. The broad vision is to house the diamond industry, people outside SEEPZ who are looking for land, Zaveri Bazar and units from other parts of the MMR region.
- 5. The secondary objective is to provide housing facility to the Karigar community near the Jewellery Park.
- 6. Third is to make the Park an integrated facility, housing the complete value chain of the jewellery manufacturing industry like Gold and Silver refineries, Rhodium and Alloy manufacturing units, banks, customs, logistics, common amenities like canteens, conference and exhibition halls, retail shops, parking etc.
- 7. The key strength of Mumbai as a project location for the Jewellery Park is that 60% exports happen from Mumbai and it is the largest wholesale market of plain Gold in India.
- 8. GJEPC to act as facilitating agency in the project and funds for purchase of land and infrastructure development to be raised from members and companies giving job works to the Karigars, Central Government and State Government schemes. Key sources of funding to be identified in the project DPR. Only initial amount of funding from SPV/GJEPC, about INR 12 crore to be injected to sign the MoU and for the feasibility study. Presently, only earnest money of 5% has been paid to MIDC by GJEPCfor the project land.
- 9. The minimum size should be 500 sqft for machine made jewellery, it is preferable to put them on lower floors with 10,000 to 50,000 sqft and for handmade jewellery 300 500 sqft and can be placed on the upper floors. Also, provisions for some units which will require their separate land or building space as per their manufacturing process and machinery sizes in the project.
- 10. The case studies that can be reviewed are 1) Diamond industry building model in Surat, 2) Gems and Jewellery Park in Surat, 3) Hybrid model for both land and building



allotment 4) Jewellery Park of Ankurhati, West Bengal 5) Grand Bazar of Turkey and 6) Gold Souk Extension project of Dubai.

- 11. Retail shops or a bazar concept has to be realized in the Jewellery Park project. Consensus about the best fit model should be gauged from socio economic survey of Zaveri bazaar members. GJEPC to facilitate small group meetings for stakeholder consultation - 1) Group of owners/jewellers and old/big players 2) Job workers and Karigars, to help capture whole picture.
- 12. Three key questions for stakeholder consultation are 1. What is the exact requirement of the workshops and whether they would like to shift or not, 2. Cost of moving to a Jewellery Park, 3. Funding from members and the council's point of view. Discussion with traders for willingness to pay upfront amount of about 30-40% for land development for the tenure of about 2 years. Banks to be identified for the project funding drawing parallel from a park in BKC.
- 13. In the entire value chain, there are 20 hands through which the jewellery has to pass through to be completed. The viewpoint of every stakeholder of the process is important as the project aspires to bring all of them under one roof to avoid the movement of jewellery outside the Jewellery Park.
- 14. Consensus availed from GJEPC to consider 21 Acre plot only as study area and connectivity to it to be mapped i.e. travel time from Zaveri Bazaar and BKC, nearest metro station, railway station, connectivity with the Airports both Chhatrapati International Airport and the Navi Mumbai International Airport.
- 15. The ownership of the land, with the SPV or GJEPC, is flexible and will depend on the outcome of the feasibility study. The lease period of land from MIDC is for 95 years. Clarity to be gained from MIDC for Right of First Refusal on project land. Lease period will start form date of execution of the lease agreement.

Based on the outcome of the feasibility study, GJEPC to take decision on purchase of land from MIDC. The project study to evaluate the possibility of availing FSI 4 instead of present FSI 3 through existing policies of Govt. of Maharashtra. Also based on the feasibility study, GJEPC to come in an agreement for phase wise development plan of the raw land with MIDC.

- 16. The payment for project land to MIDC by GJEPC will be made in 4 instalments, 25% ever year for 25% land allotment every year, with a commitment from MIDC that they will not allot the land to anybody else for the period of 4 years with no interest.
- 17. GJEPC to share the updated communication with MIDC, comfort letter and payment schedule with EY.
- 18. As per GJEPC the project land to be used only for industry and allied purpose. For urban development and affordable housing, nearby land allocated by the Government to be identified.
- 19. The major use of the project land 1) Developed plot 2) Three to four floors of developed area 3) Retail shops 4) Allied facilities like common conference areas, hotel rooms for buyers, logistics, banks, customs, raw material, maintenance and service centers and spare part suppliers.
- 20. Indicatively 50% land will be given as plots and 50% as built up area for the investors. The same needs to be reconfirmed from stakeholder survey. GJEPC SPV 'IndiaJewellery Park' will be taking charge of maintenance. The sub-leased part will be takencare of by the MIDC.
- 21. As per a survey conducted in 2018, about 10 to 12 lakh sqft of demand is there from Zaveri Bazar. So, about 30-40% from Zaveri Bazar can accommodate in the project and remaining from big players from the Maharashtra and other states can come in.
- 22. Implications of RERA on the project to be assessed in the project report.



- 23. The business plan for the project to include cost/sqft, housing facility, finance, permission and timelines to showcase to investors about the Jewellery Park and support in demand creation.
- 24. Action Plan for the project including site visit, visit to factories and stakeholder consultation to be shared by EY to GJEPC.

1.2 Meeting with GJEPC for Bharat Diamond Bourse, BKC

Date of Meeting	:	11 August 2020
Time	:	10:30hrs to 15:00hrs
Venue	:	GJEPC Office, Bharat Diamond Bourse, Bandra Kurla Complex (BKC)

Meeting Attendees:

Organization	Name & Designation		Name & Designation	
Gem & Jewellery Export Promotion Council (GJEPC)	 Mr. Sabyasachi Ray, Executive Director Ms. Kavita Hebalkar, Director - KP (Kimberly Process) 			
Ernst & Young LLP	 Ms. Keshika, Vice President Mr. Ritesh Baijal, Manager Ms. Vandana Pratap, Senior Consultant Mr. Sarim Khan, Consultant 			

Meeting Agenda:

Site visit to Bharat Diamond Bourse (BDB), Bandra Kurla Complex (BKC) to understand the process flow of Diamond industry and planning of the space at BDB.

Key Discussion Points:

During the visit, EY team had meetings with Ms. Hebalkar and Mr. Ray to understand the value chain of diamond trade and gather insights on the role of BDB in supporting Indian diamond traders and jewellery manufacturers.

- 1. About Bharat Diamond Bourse (BDB):
 - a. BDB is located at Bandra Kurla Complex (BKC), Mumbai. It is the largest Bourse in the world. BDB in its 20 acres of land, generates an employment of approximately 60,000. Diamonds can be procured from BDB for manufacturing studded jewellery. There is no manufacturing unit in the BDB, only sales, marketing and trading activity of rough and polished diamonds happens at BDB.
 - b. BDB complex is designed in the shape of a diamond and has 9 towers with 2 million sqft of constructed area. It houses space for 2500 offices and has an underground parking space for 2500 vehicles. Two of the towers (A and B) have 2 level underground parking of additional 1 million sqft and the rest of



the towers have only single level parking space. The parking is reserved for BDB employees and authorized persons only.

- c. The complex has customs office, clearing agents, commercial banks, insurance companies, gemological labs and facilities such as restaurants, stationery, travel agents, first-aid centre, parts and machinery shops etc. The rents collected from the facility providers is used for the maintenance of the BDB making it a self-sustaining ecosystem.
- d. The interconnected buildings have trading halls, diamond trading centres, testing labs and safe vaults for trade promotion. It includes utility services with 24x7 state-of-the-art security designed in conjunction with the companies coming for diamond exhibition and trading, surveillance system with a dedicated, well-equipped quick response team for tackling crisis, and rainwater harvesting system with a capacity of storing water for 3 month's usage.
- e. BDB represents prominently in the international industry associations such as World Federation of Diamond Bourses, the International Diamond Manufacturers' Association, World Diamond Council, the Kimberley Process and World Diamond Mark.
- f. The BDB contributes indirectly to other branches of the economy as well such as tourism, banking, aviation, hospitality, communications and security.
- g. Brokers, agents and traders who do not have an office in BDB can become a member of Mumbai Diamond Merchants Association (MDMA) and use the trading hall facility available at BDB owned by MDMA.

2. Location advantage - Mumbai:

- a. Mumbai and Surat are the two major clusters for diamond industry in India. 95% of the total diamond trade is accounted from Mumbai and Surat. In Mumbai, sales, marketing and trading activity of rough and polished diamond is carried out in BDB, and diamond cutting and polishing (diamond manufacturing) in SEEPZ, Andheri. Surat is a major hub for diamond manufacturing.
- b. Major reasons attributing to Mumbai being the prominent destination for diamond trading is due to the presence of SEEPZ SEZ for diamond manufacturing, BDB for diamond trade, India Diamond Trading Centre (IDTC) for auctioning of rough diamonds in India directly by major mining companies of the world and direct flights to Mumbai making it easily accessible.

3. Diamond supply chain:

a. Diamond is mined in Russia, Canada and Africa, traded in Belgium, UAE, Hong Kong and Israel, and then finally imported in India for manufacturing. India is said to account for 14 out of 15 diamonds polished globally. After manufacturing, they are exported to USA and Hong Kong for jewellery manufacturing.

4. Kimberley Process (KP):

- a. Rough diamonds can only be traded in India with the participant countries of the Kimberley Process (KP). The KP ensures that the diamonds traded through its participant countries is conflict free. India trades with 54 KP countries out of the total 82. All the participating countries have to issue a KP certificate for trading of the rough diamond with the other countries. Polished diamonds do not require a KP certificate.
- b. Some African countries have a very high export tax on the product value. To avoid the tax, the rough diamond can be moved through the porous borders



and might reach other countries for processing. In case the diamond is caught and is without KP, it is confiscated by the government, as it is a smuggled diamond. It is also called conflict diamond, and hence KP is a certification of a diamond being a conflict free diamond.

- c. For Gold, there are Organisation for Economic Co-operation and Development (OECD) guidelines for responsible sourcing are followed where nominated agencies like banks, bullion traders and export houses only are allowed to buy and sell gold.
- d. BDB issues a total of 20,000 KP certificates in a year out of the total 40,000 out of which 3,000 are for exports. The exports of diamonds are accounted under the chapter 71 of harmonized system (HS 71).

5. India Diamond Trading Centre (IDTC):

- a. BDB houses IDTC, a Special Notified Zone (SNZ) in tower D with a capacity of 10 rooms and conference halls for the purpose of rough diamond exhibition and auction. Mining companies like Rio Tinto, De Beers and ALROSA can book the rooms in advance for weeks and ask traders to come in for exhibition and placing orders. Bidding, auctioning and tendering is carried out in the SNZ but the sale of diamonds directly is not permitted currently due to tax issue. Mining companies exhibit, take orders and go back to their respective countries. The buyers now import the diamonds back they bought at the auction in India for their respective business requirements. GJEPC has taken the initiative to pursue the activity of sale of rough diamond directly from the SNZ to facilitate the buyers which will help them procure rough diamonds at lower price.
- b. Like Belgium has a simplified tax structure, UAE and Hong Kong have free trade zones (FTZ), if SNZ is allowed to make sale of rough diamonds after resolving the taxation issue, it will open gates especially for the MSMEs to buy the rough diamonds and reduce the cost of manufacturing diamond and jewellery, and eventually increase exports.

6. Indian jewellery clusters and expertise:

- a. India is the only country with the expertise of cutting small diamonds. Even the industrial grade diamonds can be cut and polished into 18 facets.
- b. India has clusters for jewellery manufacturing. Mumbai and Surat are known for diamond studded jewellery. Kolkata, Kerala and Tamil Nadu are known for plain gold jewellery. Jaipur is known for coloured stones and synthetic stone studded jewellery. Delhi, Rajkot and Jaipur are known for silver jewellery.

7. Customs process for diamond import and export:

- a. Customs is present at 3 locations in Mumbai, namely, in BDB, SEEPZ and Chattarpati Shivaji Airport. The process of the customs is as follows:
 - i. Parcels come at the airport and are deposited in the strong rooms of BDB, Surat Hira Bourse and others present at the airport
 - ii. Parcel then is shipped to BDB as it has the infrastructure and is the custodian of the goods, Goods are deposited in the BDB vault
 - iii. Based on the goods, documents of the parcels arrive at BDB for custom clearance. If it is a rough diamond, then it has to come to council for completion and validation of KP. If it is a polished diamond, then there is no KP process
 - iv. Bill of entry is filed by the importer or customs agent
 - v. Internal process of customs is completed, with goods going through appraising, examining, weighing, valuation and physical verification



- vi. Clearance of goods and handover to the importer
- b. Training of the customs officer is done by the Gemological Institute of India (GII) for 15 days to 1 month to help him be equipped with handling of gems and jewellery goods. Training happens in BDB itself and sometimes in Sukhsagar, Chowpatty GII Branch.
- c. For exports council has no role as it mainly for polished diamond and jewellery. Goods are booked online (EDI system) for export through exporter himself or through Customs House Agents (CHA) for a particular time slot with all the documents like invoice list, packing list etc. The exporter comes with the goods and they are deposited in the vault first. In the interim, the customs process of examining, appraising and final sealing the goods for export is carried out. The let export order is now issued and the goods will be sent to the airport for the booked airline. Usually, the export order is shipped within the same day of the booking of the flight. At the max, it will go the next day. (TAT is 2 days).
- d. Around 800-900 export shipping bills can be processed in a day at BDB and currently 6500 are being done in a month as the COVID-19 lock-down is not completely over.

8. Challenges:

- a. Location
 - i. Mumbai currently has an advantage over Surat as it has international connectivity through flights. The cargo destined to Surat has to first land in Mumbai and then has to be transported to Surat via road in secured vehicles. Surat is trying to start international flights which will hamper exports from Mumbai significantly. Surat is in talks with the state government for the same already.
- b. Online customs process
 - i. KP certificate, Register Cum Membership Certificate (RCMC) certificate and permission letter are issued by the council from GJEPCwhich is required for participation in a foreign exhibition. The issued certificates are also required for the customs process.
 - ii. All the other licences issued for the export-import purpose by an organization have to be registered on the e-Sanchit IceGate online portal as a Partner Government Agency (PGA). For ease of doing business (EoDB), all the documents have to be digitally signed and uploaded on the portal by the council and the organization as well. For any document uploaded on the portal by the council, an Image Recognition Number (IRN) number is generated which is unique and linked to the certificates and permissions for a particular IEC. The IRN number is shared with the exporter to access all the permissions and certifications granted to him by the council.
 - iii. Customs is also able to see the digitally signed copies of the KP certificate or permission letters while exporter files the shipping bill and puts the IRN number. Now, since all the documents are available in digital format, the need of physical touch points is eliminated. On ground implementation still has a few physical touch points and is not completely online, although customs process is online e-Sanchit IceGate.
 - iv. Now, post the discussion the Government, a new system with API integration is coming up where the data of the KP certification will get directly captured by the customs as the data shared by the KP team



will be going from their respective API. The only aspect which will remain to be checked will be the basic checks of carat value.

- c. Duty on polished diamond import increased
 - i. 7.5% duty levied on polished diamond import in 2018, due to data misinterpretation of return consignment (re-import) and polished import. As per data from customs, net export was recorded as export minus return consignment, and net imports as rough diamond imports, and polished import from SEZ and DTA was shown separately. DGCIS does not have a provision to provide break-up and the data is represented as exports and imports only. The re-imports were tagged under chapter HS 99 as commodities not specified. Two years back, the reporting was changed, and the trade was recorded under the polished diamond import HS 7102, leading to 300% increase in import, falsely portraying the import data and forcing government to increaseduty. The actual figures can be referred from GJEPC.
- d. Financial viability of the proposed Gems and Jewellery Park. Identification of the sources of funds to complete the development of the park

9. Diamond manufacturing process:

- a. Diamond manufacturing process usually has four steps
 - i. Procurement and planning stage. The value of the diamond to be extracted is decided, it can be a single big diamond or four small diamonds with better profits.
 - ii. Based on the planning, the diamond is cut and polished as per the requirements like colour, facets etc.
 - iii. Quality control
 - iv. Jewellery manufacturing. Diamonds are studded or diamond jewellery is manufactured
- b. The value addition in each step of the value chain process can referred from Diamond Pipeline published by Diamond Intelligence Briefs (DIB) - Tacy's report.

10. Lab grown diamonds:

- a. Lab grown diamonds have lesser demand then natural diamonds in India but has a huge demand in USA, Hong Kong, China and UAE. Lab grown diamonds are also manufactured in Surat. They are identified under the synthetic stones chapter HS 7104. The further bifurcation is done in 8 digits for polished and rough synthetic stones.
- b. To segregate the lab grown diamonds and natural diamonds, GII machines are used by the Diamond Detection Centre, traders and jewelers

11. Expectations from the proposed Gems and Jewellery Park:

- a. The jewellery park should have gold jewellery manufacturing ecosystem under one roof. SEEPZ has two models, first is the land (where manufacturers buy land and build their own complex/unit) and second is of Galas also known as SEEPZ Plus Plus, which can be referred.
- b. Jewellery park must house each and every stakeholder of the gold jewellery manufacturing value chain. Zaveri Bazar must be studied thoroughly, and its ecosystem has to be shifted to the proposed jewellery park. Along with the gold jewellery manufacturing, imitation jewellery manufacturing should also be a part of the ecosystem as it is a huge market (now about 50% of the market). Diamond manufacturing units are welcome but should not be a focus.



- c. Customs office, refineries, bullion dealers, machine and parts dealers and retailers should all be present in the park.
- d. The jewellery park model is envisaged to have 50% of the land and 50% is for the constructed office space. Out of the constructed space, 25% should be for the sale/lease of Galas and 25% for renting out small units/Karigars.

12. Others:

- a. MOA's can be requested for sharing with EY team from Mr. Murtuza
- b. SEEPZ and jewellery park site visit to be coordinated with Mr. Abhizar

1.3 Meeting with Mr. Anoop Mehta, President, Bharat Diamond Bourse

Date of Meeting	:	9 September 2020
Time	:	12:30hrs to 13:00hrs
Venue	:	Video Conference via Zoom

Meeting Attendees:

Organization	Name & Designation
Bharat Diamond Bourse (BDB)	Mr. Anoop Mehta, President
Ernst & Young LLP	 Ms. Keshika, Vice President Mr. Ritesh Baijal, Manager Ms. Vandana Pratap, Senior Consultant Ms. Sneha Jalan, Consultant Mr. Sarim Khan, Consultant
GJEPC	Mr. Abhizar Bootwala, Project Manager

Meeting Agenda:

To understand the business, management and operational aspects of the Bharat Diamond Bourse (BDB), BKC Mumbai from Mr. Anoop Mehta, President of BDB.

Key Discussion Points:

- 1. About BDB (business model and operations):
 - a. BDB is a Section 8 company, however it is one of the very few companies which is limited by liability and also issue of shares. Every person who owns an office in BDB, has contributed towards the construction and has been allotted 1 share per sq.ft.
 - There are about 4,000 trade members in total. The members are of two types Property members and Trade members. There are 2,400 property members.



b.

- c. BDB was founded in the 1980's with 297 original members and later, were allotted property for monetary exchange and given membership of BDB.
- d. The land at BKC was acquired in 1991, construction started in 1993 and the project got stalled in the year 1998-99. For 4-5 years, the project went into limbo and in 2003-04, the project recommenced and got completed in 2010.
- e. BDB holds 2,00,000 sqft of office space which they give on rent and 1,00,000 sqft on the ground floor which is also given on rent. There is an income of about INR 70 crore from rent.
- 2. Due to project delay, what was there any issue with occupancy of members? The space was fully allotted and subscribed from Day 1. It happened in two phases. BDB earlier had bought 13 acres of land but since there was requirement for more space, in a week's time, BDB bought another 7 acres.
- 3. Who is the owner of the Common Facilities at BDB and who looks after its maintenance?

All the stakeholders own the Common Facility.

4. Is there any SPV formed?

No. BDB is the only body and its aim is to provide best infrastructure for the diamond exporters. BDB does not intervene in policy related matters, that is looked after by GJEPC.

- 5. What happens to the profits and the earnings generated from maintenance? The maintenance charges are INR 9 per sqft but BDB charges only INR 1 per sqft to its members. The members pay INR 16-17 per sqft to BMC separately.
- 6. How was the payment mechanism for the development of BDB structured? The cost of the land (INR 215 crore) was divided per sqft, amongst the members, and was charged at INR 300 per sqft as an initial instalment. It was taken as advance against share applications and it had some surplus amount also component in it. Today, advance against share applications is not permitted as shares have to be allotted in certain period of time. EY will have to figure out a way to work it around.

7. Was there any loan taken for project funding?

No. When the project got stalled, the instalment amount asked from members was reduced to 70% as the members had lost faith. MMRDA asked for complete payment and refused to provide Occupancy Certificate (OC). Without OC, bank cannot provide a loan. Members also asked for OC as a guarantee to make full payments to BDB. Ultimately, MMRDA Commissioner asked BDB to pay interest at 12% instead of 8% with a time frame of 2 years. BDB paid back the amount in 6 months, got the OC, and after receiving OC, all the members also made full payment.

There was no other support rendered by MMRDA or any Government authority in terms of monetary benefit or any subsidy.

8. Were payments linked to the construction, or the issue price of shares?

As and when the money was required, the instalments were paid. There was no issue price. Members who didn't pay instalments on time, were later charged interest of 14-18%. The interest rates also used to vary every 6 months.

Up till 3 years back, around 19 members who were refusing to pay the interest amount, their allotment was cancelled and premises were take back, and were provided with the applicable refund.



All these terms (right to cancel allotment, refund and interest applicable) should be incorporated in the offer letter.

9. What is the structure of operational model and management of the park?

There are 50-55 people directly employed by BDB and outsourced more than 1200 people to take care of cleaning, 350 for security. All the heads are on roll. Admin, company secretary, accountants etc. are also on roll, are direct employees and some senior consultants.

BDB has their own engineering team, plumbing team and electrician also. There is AMC done, all the maintenance is taken care by BDB without any charges, only the capital cost of replacing any equipment is to be taken care by the members.

10. How was the sale price of the property decided?

The cost price was divided directly and there was a deposit and the money was debited as the floor height post which the accounts were cleared and shares were issued. All the profits go into maintenance which amounts of capital expenditure of INR 10-15 crore annually. BDB builds on reserves which could be utilized for future needs.

11. Is there any separate charge for usage of CFCs (conference rooms / trading halls)? There are separated charges for that as per usage. For example, INR 30,000 - 35,000 for a full day on booking, and all managed by BDB.

12. Some suggestions.

Buy the latest equipment and have a team on-ground during construction to keep a check on the workflow.

1.4 Meeting with Shri Mansukh Kothari, Gem & Jewellery Export Promotion Council

Date of Meeting	:	08 August 2020
Time	:	14:30hrs to 16:30hrs
Venue	:	Online Video Conference (Zoom meeting)

Meeting Attendees:

Organization	Name & Designation		
Gem & Jewellery Export Promotion Council (GJEPC)	 Mr. Abhizar Bootwala, Project Manager Mr. Mansukh Kothari, GJEPC Member and owner of Vasupati Jewellers 		
Ernst & Young LLP	 Ms. Keshika, Vice President Mr. Ritesh Baijal, Manager Ms. Vandana Pratap, Senior Consultant Mr. Sarim Khan, Consultant 		
EcoUrbs Consultants Pvt. Ltd. (Technical Consultants to EY)	Mr. Nirav Makwana, Director		



Meeting Agenda:

Stakeholder consultation meeting to understand the value chain of Gems and Jewellery industry, understand the operations and issues at Zaveri Bazaar located at Bhuleshwar in South Mumbai, stakeholder expectations from the Gems and Jewellery Park project.

Key Discussion Points:

The meeting kick started with Mr. Kothari giving insights about the Zaveri Bazar in Mumbai. EY and Ecourbs presented questions to get a better understanding of Zaveri Bazaar and understand stakeholder expectations.

1. About Zaveri Bazaar:

- a. Zaveri Bazar houses only handmade jewellery manufacturing units. Diamond, gold and platinum jewellery is made in the units ranging from 200 to 1000 sqft in size. Other activities like cutting of diamonds and gemstone is not carried out in the Zaveri Bazar. 60-70% units in Zaveri Bazar now own the places where they work
- b. Complete value chain of manufacturing the jewellery is present in the Zaveri Bazar, starting from procurement of the 24 carat Gold bar till the finished jewellery.
- c. The shops present in the Zaveri Bazar are owned by Karkhanas, Sales offices, Jewellers, Gemstone shops, tool shops and Karigars performing specific operations of jewellery manufacturing process like soldering, Diamond setting or Rhodium finishing. A small lane in Zaveri Bazar has sales offices and buildings with ground floors given for shops for sale of jewellery.
- d. The whole ecosystem is present within the area of 1 km area including Zaveri Bazar, Kalbadevi and Bhuleshwar. The buildings have ground floor for the shops and some manufacturing units on the top floors and the Karigars are residing in the same buildings.

2. The Gold jewellery making process at Zaveri Bazaar includes:

- a. Procurement of Gold by jewellers from banks / bullion dealer / 5 Star export houses. The Gold supply is controlled by banks and movement of Gold is done by some specific logistic players specializing in transporting precious cargo. The bank or bullion dealer will send the 24 carat Gold brick to the jeweller using authorized logistic provider.
- b. Jewellers give Gold to Karkhanas and units along with jewellery designs (a.k.a. sub-contracting / job works).
- c. Karkhanas have the complete setup and the infrastructure with the Karigars to manufacture the jewellery. The manufacturing process starts with melting of Gold received to the level of purity required i.e. 22 carat or as per the requirement.
- d. Big Karigars can be defined as units having 1000 sqft of space having 100-150 Karigars working for him and has an output of manufacturing 50-75 kgs of jewellery in a month. Small Karigars will have 2-3 Karigars working with the him and will rent out a space to run his small operation.
- e. Melted Gold is drawn into rods. Rods are further shaped / rolled into sheets / die cut / drawn into wires using drawing machines. The size of the machines is usually 3ft in length and 4 ft in height and they weigh around 300 kgs.



- f. Soldering is done to prepare the jewellery frame (smoke comes out of the heating process and vented out into the air directly). Acetone gas is used for soldering.
- g. Polishing of the jewellery frame is done using Sulphuric and Nitric acid (liquid produced diluted and disposed directly into the drainages 'nallas').
 - h. Diamonds are procured from Bharat Diamond Bourse, Bandra BKC and Gemstones are procured from shops in Zaveri Bazar. Diamonds and gemstones are gathered along with waxes for decoration. Setting of Diamonds or gemstones to complete the jewellery.
 - i. The unused Gold with the Karkhanas is accounted and works on the balance payment system. Solid waste includes the plaster used for setting of jewellery and the gold dust is sold.
 - j. Finishing of the jewellery with Rhodium as per requirement. Finished jewellery is handed back to the principal jeweler.
 - k. There are about 1000-2000 jewellers in Zaveri Bazar which supply jewellery to both domestic and international market. Mostly, jewellery is exported to UAE, USA, Singapore and Malaysia.
 - l. **Product Marketing:** The export orders are received by participating in exhibitions and mostly by business relations. India International Jewellery Show (IIJS) is the biggest exhibition conducted by GJEPC in NESCO ground, Goregaon where 1500 players participate from both domestic and international markets.

3. Infrastructure at Zaveri Bazaar:

- a. Natural light is required for the sorting and other process work on diamonds. For other processes, it is not necessary and artificial light suffices.
- b. Water and electricity usage are mostly for basic necessities. There is no separate and large requirement of water and electricity in the jewellery manufacturing process unlike other industrial usage. If the unit is completely air conditioned, then only the electricity charges will increase otherwise, for handmade jewellery, it is not the case.
- c. Security is not a major concern due to the structure of Zaveri Bazar, as it is densely crowded area. If there is any mishap, mostly it is in transit. The security measures taken are the automatic 2 door systems where in one door operates at a time leaving no scope of tailgating.
- d. Parking is a big issue as there is space constraint in the Zaveri Bazar. Usually INR 50-100 is paid for a day's parking.

4. Social Infrastructure at Zaveri Bazaar:

- a. 95% of the Karigars are Bengalis and they get trained on the job in about 18 months. They are mostly from the same families. Local labor is expensive due to the cost of living in Mumbai.
- b. Only the managers and shop owners require commuting facilities, Karigars stay in the workshops. Karigars mostly stay in the workshops and have mats 'Chatai' which they use as sleeping beds. Chatai is provided by the Chatai makers free of cost and every six months the chatai are taken back. The makers earn from the gold residue on the mats.
- c. Karigars usually don't move around while they have a job to complete. They complete their jobs mostly by 11 pm at night.



- d. There is a requirement of food or 'dabbas' as Karigars don't have time to prepare it while being on the job.
- 5. Approvals and clearances:
 - a. To get the Factory Licence, clearance from Fire Department and permission/clearance from pollution department (MPCB), an external consultant needs to be hired to get the job done. There is no issue with the Customs Department.

6. Factors compelling stakeholders from Zaveri Bazaar to move out

- a. A major reason which will make the units and Karigars shift to Jewellery Park is the cost of production which is going up due to the high land cost and labor cost accompanied with harassment from officials and crowded unhygienic conditions for Karigars in Zaveri Bazar.
- b. Big players will not have an issue with the funding and bank loans but small units will need assistance. Big units will not have an issue paying upfront of 30-40% advance payment amount for the development of Jewellery Park but the Karigars will face challenges due to the traditional thought process of not leaving the owned land. Machine made factories will be the first ones to shift to Jewellery Park due to the stated reasons and also because the use of Common Facility Centers will reduce their costs further.
- 7. Expectations from the proposed Gems and Jewellery Park:
 - a. Manufacturing zone, trading zone and Housing/dormitories should be the three key elements of the park design. Retailers give business to jewellers based on their relationship. For a jeweller to be placed on third floor or any other floor does not really matter. For retail businesses, ground floor is preferred.
 - b. **Manufacturing Zone:** Zaveri Bazar Karkhanas and some companies will need industrial 'Galas' in multiple of 500 sqfts having heavy machines weighing in tonnes. 60-70% of the project should be designed for the 'Galas' in the form of either land or row-house form of a concept (a building having 3-4 floors but each building still attached to other building). Handmade jewellery units can be moved on the upper floors.
 - c. **Trading Zone:** Retail shops for end consumers with space ranging from 500 sqft shop to 5000 sqft showrooms and small shops for raw material suppliers, gemstone suppliers, banks, logistics providers, Customs, catalogue suppliers, spares and maintenance, refineries etc. Trading zone in 2-3 buildings where the principal jewellers, designers and Karigars will meet to showcase the finished jewellery and for inspection.
 - d. Housing/Dormitories: Provision of dormitory of about 10,000 Karigars is envisaged. It still needs to be decided after referring to international standards and based on permission from Jewellery Park. For housing, two proposal have to be considered, one for the dormitories where Karigars will be working inside the park and the second where affordable housing complexes can be built near Shil Phata and Dombivli areas for the families of the Karigars. The Government policy of Gareeb Kalyan Yojana can be referred and incorporated for any subsidies in buying houses for the Karigars.
 - e. Key Design Features of Gems and Jewellery Park:



- i. The whole ecosystem and all the stakeholders of jewellery manufacturing are required to be shifted to the Jewellery park. Some part of the land should be retained with the Jewellery Park so that they can rent out the place to small Karigars and units which cannot afford to buy the Galas. About 20% land can be considered to be retained.
- ii. Create better working environment for all the Karigars. Training centers for skill upgradation of Karigars with international experts. Turkey and China have such facilities for workers. Ankurhati in West Bengal can also be referred as a case study. Mr. Kothari will let us Abhizar or Vandana of the names of the facilities which can be referred
- iii. The park should have international standards when it comes to infrastructure and the facilities provided in the Jewellery Park and it should become the biggest trading center for jewellery from India. If possible, provision of a helipad.
- iv. A big hall along with a hotel for exhibition and other conferences. Provision for some 50 room hotels for international and domestic buyers. Exhibition provision to showcase the artistry of the manufacturing of handmade jewellery to foreign and domestic buyers.
- v. The Park should also act like a tourist attraction where it can act as an educational experience for all the visitors visiting the Jewellery witnessing jewellery manufacturing. It can also be used for educational purposes to help students witness the art of creating jewellery.
- vi. Design the ecosystem on the Green energy utilizing solar energy and a sustainable model.
- vii. To completely eradicate undue harassment from the Government officials and safeguard shop owners.

8. Others:

- a. Mapping of the Gold and Diamond jewellery value chain to be shared with Mr. Kothari for vetting and his suggestions to validate and capture all the processes and stakeholders involved. Mr. Kothari can help EY connect with a jewellery manufacturing unit and Karigars to help understand the process better. Visit to Zaveri Bazar can be scheduled post 15 August and to gold jewellery factories in Sewri, Lower Parel and diamond jewellery Andheri, MIDCcan be scheduled in the next week.
- b. Report of the survey conducted two years back by GJEPC to gather requirements of the units of Zaveri Bazar to be shared with EY by Abhizar.

1.5 Meeting with Legal Department and Company Secretary, Bharat Diamond Bourse

Date of Meeting	:	23 September 2020
Time	:	11:00hrs to 12:30hrs
Venue	:	Bharat Diamond Bourse, Bandra Kurla Complex, Mumbai

Meeting Attendees:



Organization	Name & Designation
Bharat Diamond Bourse (BDB)	 Mr. Varun Shah, Head - Legal Ms. Reshma Thomas, Company Secretary
Ernst & Young LLP	Mr. Ritesh Baijal, ManagerMr. Sarim Khan, Consultant

Meeting Agenda:

To understand the legal and contractual aspects of BDB with its members and the terms and conditions on which the allotment of units was done and other key components to be kept in mind while setting up a structure for GJEPC from Mr. Varun Shah, Head - Legal and Ms. Reshma Thomas - Company Secretary.

Key Discussion Points:

The meeting kick started with EY providing overall purpose of the meeting and requested Mr. Shah to provide key legal inputs which BDB opted for while drafting the legal agreements with potential occupants and the various challenges faced by BDB during implementation and operational period.

- 1. Allotment of premises to property owners and procedure to become a shareholder:
 - a. In the beginning of the project, BDB had a lottery system where based on initial token amount the office was allotted to the member on provisional basis.
 - b. BDB issued an allotment letter to the members of BDB who booked the property at the premises and entered into an agreement with the owners whichcovered details of property bought along with car parking and towards the endof the agreement it contained the share certificates allotted to them based on the area and the car parking.
 - c. Members were allotted 1 share for each sqft of area owned by them i.e. 1 sqft of area is equivalent to 1 share and only owners were issued shares to be counted in share capital.
 - d. The first installment received from members were put in the share application money and as a next step NOC was obtained from MMRDA. Subsequent to that BDB used to inform MMRDA them that they were issuing shares to the premise owner. Post the allotment of premises the amount received was transferred to the share allotment account and this way the member used to become a shareholder of BDB. The procedure remains the same as of today as well.
 - e. In the beginning BDB was issuing share certificates after first installment made by the proposed occupants, however after seeing defaults in future installments they stopped this practice and issued share certificates only after receiving full payment towards the booked premises.
 - f. BDB took 4-5 installments from their members towards the proposed purchase of premise during construction phase.
 - g. The members were charged an interest of upto 18% p.a. in case of default in the payment of installments in the initial period.

2. Transfer/leasing of premises

a. In case if a property owner wants to give the premise on leave and license or want to sell/transfer it to other member then they will have to intimate the same to MMRDA (the landowner in case of BDB).



- b. BDB has a master list of documents to be submitted to MMRDA at the time of transferring or sub leasing the premises. The member relation department at BDB helps the members with regards to the list of documents or liaisoning with MMRDA or to resolve any queries which members may have.
- c. Members need to submit an application to BDB prepared by the legal team for any such transfer/sub lease of property and has to obtain a NOC from MMRDA.
- d. MMRDA needs to be informed even if the owner wants to mortgage the property for taking loan/debt on that property and there is a separateapplication format for the same.

3. Articles of association

- a. As per Articles of Association of BDB, any buying, selling, or leasing can happen only with parties involved in gems and jewellery business or if they are a trading member of BDB.
- b. The AOA and MOA of BDB was drafted in 2010-11 before the operations started at the premise after consulting managing committee and key members.

4. Treatment of share application money

- a. Share application money cannot be held for more than 7 years in the books of accounts otherwise that money will go into investor education and protection fund. Now a days the money is kept in escrow account but here also it cannot be kept for more than 7 years otherwise the money will go to investor education and protection fund.
- b. BDB had cases where the owners didn't paid money after first installment and that money was lying idle in the share application money account. BDB have returned the money to those members and have cancelled their allotment.

5. Membership

- a. BDB has two types of membership i.e. trading membership and associate trading membership. The membership fees for a trading member it is INR 90,000 p.a. whereas for the associate trading member it is INR 25,000. The associate members are compulsorily required to get their membership converted into trade membership after the expiry of 5 years.
- b. If one person wishes to obtain a trade membership than they would need sign of a committee member and signature of two other members.
- c. No tenants such as banks, food vendors, other ancillary units can become member of BDB.

6. Other discussion points:

- a. The project was stuck for few years, however BDB was collecting the money from members to complete the construction of this premise. The members were operating from Opera House at that time.
- b. Members were paying the money requested by BDB's managing committee with some or no delay hence the project did not opt for any external/debt funding.
- c. BDB has 3 categories of premises which can broadly be classified into buckets of 1-500 sqft, 501-2,500 sqft and 2,500-20,000 sq.ft.
- d. BDB has about 300 DTC cabins cabin where small assorters do the work who cannot afford to buy the property and they have taken space on purely on leave and license basis (10-15%) of the entire built up area. BDB owns these cabins and give these on lease as per applications received.
- e. In total BDB has 700 premises (25% of total built up area) in their hand which are on ground floor for banks, ancillary, food, etc. which are sub leased by BDB.


BDB bought these premises through the balance money left from members contribution.

- f. BDB takes legal documents such as partnership deed, ROC copy, LLP agreement, shop and establishment act, etc. from members at the time of allotting the units.
- g. BDB has a maintenance expense of INR 9/sqft however they are charging 2 rupees to the members and subsidizing the balance amount. The maintenance charges from members have not been revised since past 5-6 years.
- h. BDB has 600-700 employees for housekeeping, 400-500 for security plus other people for maintenance, electric, plumbing and other functions. Except accounts and legal, and some staff for security, most of the employees are outsourced.
- i. BDB functions on the rental income earned from occupants of leave and licensed premises such as banks, food vendors, courier shops, etc.

7. Suggestions:

- a. Committee members should be given more power and should be detailed in the MOA.
- b. Interest to be charged from members on default should be decided before hand and should be clearly mentioned in the allotment letter.
- c. Ownership/shareholding should only be given to members and share certificate should be given only to the owners and to the people who have bought the premise.
- d. Share certificate should only be issued once entire money has been collected from allottees.
- e. The keys for either unit or car parking should not be handed over to the occupants till they have paid the last installment even if they been allotted the premise or car parking.

Escrow structure should not be opted since interest will have to paid to the members and money will also be transferred to investor education and protection fund if it is kept idle for 7years in case the project gets stuck due to some reason. BDB had to cancel the allotment in around 13 cases and they refunded the share application money where the allottees did not pay after their first installment.

1.6 Meeting with Security Department, Bharat Diamond Bourse

Date of Meeting	:	23 September 2020
Time	:	12:30hrs to 14:30hrs
Venue	:	Bharat Diamond Bourse, BKC, Mumbai

Meeting Attendees:

Organization	Name & Designation
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Bharat Diamond Bourse (BDB), Security and Fire Safety Department	•	Mr. Samir Kumar Jha, Head of Security and Fire Safety
Ernst & Young LLP	•	Mr. Ritesh Baijal, Manager Mr. Sarim Khan, Consultant

Meeting Agenda:

Stakeholder consultation meeting with Mr. Samir Kumar Jha, Head of Security, to understand the security aspects of BDB in terms of design, infrastructure, manpower and cost. Also, solicit suggestions and inputs for the proposed gems and jewellery park.

Key Discussion Points:

The meeting started as per the agenda. Mr. Jha requested EY's inputs to understand the scale of security required at the jewellery park, post which he gave insights on security at BDB and suggestions as per the requirements of the proposed jewellery park.

1. Value of trade:

The annual value of trade carried out of BDB is to the tune of USD 20 Bn. For the proposed jewellery park, the expected revenue to be generated is USD 5.6 Bn.

2. Footfall:

BDB has a footfall of upto 60,000 people in the premises. In Zaveri Bazar, upto 1 lakh workers work in the Karkhanas, upto 50,000 thousand footfall of people can be considered for commercial and retail activities, another 1 lakh for supporting infrastructure like refineries, machine and equipment vendors, weighing, melting and other small units. Apart from the aforementioned, upto 5 lakh Karigars reside in and around Zaveri Bazar and nearby areas who take contract jobs for the jewelers. As the jewellery park would be accommodating the complete ecosystem, from handmade jewellery of Zaveri Bazar to mechanized jewellery from parts of Mumbai along with support ecosystem, the jewellery park be able to accommodate upto 5 lakh people at a given point of time.

The security design will be different for people who work in the premises and who will stay in the premises.

3. Architectural design:

Architectural design plays a crucial role in security design and it is advised to have an involvement of the security designer or consultant along with the architect. The gate design, number of gates, entry and exits, height and passage width within the premises, elevation and view from the building, building connections etc. should be considered at the design stage itself. The view of BDB from outside is such that a person cannot see any activity happening inside BDB and from the inside is such that a person can see the fence and the nearby exit gate.

All the offices receive maximum amount of natural light and the longevity as they buildings are designed from east to west, which reduces use of artificial light.

4. Infrastructure:

- a. Security
 - i. BDB has its own security. It is a multi-occupant single trade setup. The access control is restricted to the users who work inside BDB,



rest all the visitors are restricted. For a visitor to enter, the host entertaining the visitor should get the formality done on behalf of the visitor and take their liability.

- ii. The access control given to the employees is restricted to their respective office and common facilities. No Ola Uber, Zomato Swiggy, Amazon Flipkart or any other aggregator is allowed inside the BDB, the respective worker has to come to the gate and collect the parcel or service.
- iii. For service providers like Dabba walas and packaged drinking water providers, BDB card is issued and the documents requested include reference from service provider union and consent from police station.
- iv. The first layer of security is to filter the visitor at the periphery or the main gate. The second layer is at the building premises where you are only allowed to enter the gate designated for your office area, the access card will not work at any other building or floor.
- v. The gate size has to be carefully designed to be able to filter 5 lakh people. Also, the exit of the park and periphery should be able to accommodate the people's traffic on the road. Traffic engineering has to be kept in mind while designing the periphery.
- vi. BDB has 12 gates, 2 of which are for emergency, 5 are for vehicles and 5 for pedestrians.
- vii. All the buildings should be inter-connected to help dispersion of people.
- b. Equipment
 - i. BDB has a setup of 3,500 cameras, constantly monitoring the activity of the workers inside the premises. The video recording of the cameras is stored up to 3 months. There is a team which does live monitoring 24x7. Camera vendor chosen for BDB was Bosch.
 - ii. Turnstiles should be chosen based on the durability and not on the rotations per minute. Maintenance cost has to be minimal and quality should not be compromised. Turnstile vendor chosen for BDB was KABA.
 - iii. Total equipment cost will go upto INR 100 crore for the gems and jewellery park. The cost of BDB was upto INR 70 crore.
 - iv. Cameras, alarm systems, speakers, screens, PA systems, sensors, cabling, iris and palm scanners are commonly used equipment for setting up security infrastructure.



- c. Vaults
 - i. There are 4 vaults in BDB, one for customs, one for miners for exhibition purpose and two for lockers of the traders and owners of BDB.
 - ii. Vault size of customs is 4,000 sqft Other vaults are bigger in size and they house 15,000 lockers.
- d. Manpower
 - i. Trade Disciplinary Committee: If there is a breach of trust owing to loss of money and material, the committee investigates the issue and takes disciplinary action.
 - ii. The total strength of the team is 500 members. Out of 500, only 10 are on BDB payroll, rest all are outsourced, however, most of the outsourced strength is upto 5 years old in the organization.
 - iii. The security personnel carrying guns are also required submit a psychometric test every 6 months to guarantee that the personnel is sane and qualified to carry the gun.
 - iv. The salaries for security staff goes upto INR 15 crore per year.
- e. Fire
 - i. Alarm system
 - ii. PA system
 - iii. Fire station
 - iv. Fire truck
- f. Medical
 - i. Ambulance
 - ii. Hospital
 - iii. Paramedics
 - iv. Medical equipment
- g. Electronic security
 - i. Baggage scanning is done in three schedules with per hour rate of 300-400 scans. Its capacity is upto 600 scans per hour.
 - ii. Traceability of the material lost can be facilitated inside the premises, except for the spaces occupied by the occupants (i.e. inside the office premises).



- iii. Wireless equipment should be avoided, hard wired equipment is preferred. The costing for hard wired equipment goes up as the cost of cabling increases.
- h. Elevator operations
- i. IT infrastructure
 - i. The connection used in the BDB for communication is run on 5 petabytes, costing upto INR 3 crore.
 - ii. Data storage infrastructure required to save data of recordings for 3 months, costing upto INR 8 crore.
 - iii. Go for fiber optic cables instead of regular cables.
- j. Command centre
 - i. The command centre controls all the security aspects like access controls, CCTVs, live monitoring, communication, electronic systems etc.
 - ii. It is set up in an area of 10,000 sq.ft. The cost of building the command centre was INR 20 crore. The time to design and complete the construction took 5 years.
 - iii. Subject matter expert
- k. Intelligence team
- l. Security training
- m. Helipad
 - i. A consultant should be hired in the construction stage itself to help the company get the licenses, with the validity of upto 2 years nowadays. The license is renewed every 3 years.
 - ii. Team from DGCA comes to assess the site and grants approval subject to, have met with all the required conditions.

5. Challenges:

a. Civil unrest

Chances of civil unrest becomes high when there is a large amount of public gathered.

b. Union disputes



Although union disputes in jewellery sector not heard of, but still, large gathering due to unionization for particular demand can create unrest leading to union disputes.

6. Suggestions:

Trust factor plays the most important role when it comes to security. The administering committee should be strong and willing to take risk to decide what components are crucial for security what are not required, as otherwise, costs will only increase because of fear factor.

The infrastructure required should be an amalgamation of both tradition and technology, to cope with the speed and quality. There should be a separate budget allocation of money for investing in security infrastructure. The equipment should be bought only at the time of implementation, as the equipment becomes obsolete due to technological advancements.

Maintenance of the equipment must be minimal. Equipment should be replaced every 10 years and no maintenance package or AMC should be taken for any equipment post 10 years of age.

1.7 Status update meeting for 'Detailed Project Report for Gems and Jewellery Park in Mahape, Navi Mumbai' project with GJEPC

Date of Meeting	:	09 October 2020
Time	:	11:00hrs to 14:00hrs
Venue	:	Online Video Conference (Zoom meeting)

Meeting Attendees:

Organization	Name & Designation	
Gem & Jewellery Export Promotion Council (GJEPC)	 Mr. Vipul Shah, Chairman Mr. Sabyasachi Ray, Executive Director Mr. Mansukh Kothari, Member Mr. Kirit Bhansali, Member Mr. Abhizar Bootwala, Project Manager 	
Ernst & Young LLP	 Ms. Shuchi Trivedi, Director Ms. Keshika, Vice President Mr. Navreet S Beling, Vice President Mr. Ritesh Baijal, Manager Ms. Vandana Pratap, Senior Consultant Ms. Sneha Jalan, Senior Consultant Mr. Sarim Khan, Consultant 	



EcoUrbs Consultants	•	Mr. Nirav Makwana, Director
Pvt. Ltd. (Technical	•	Ms. Ankita Sharma, Project Coordinator
Consultants to EY)		

Meeting Agenda:

Status update meeting to present project progress of the feasibility study of the India Jewellery Park Mumbai (IJPM) and seek confirmation on assumptions and output established from the study. Take feedback and suggestions from GJEPC to ensure project alignment and discuss further course of action.

Key Discussion Points:

The meeting started with a brief background and broad status update of the Jewellery park project from EY. EY and Ecourbs presented the detailed project report to GJEPC including the value chain study, benchmarking with best practices, market and project assessment, master plan for park and financial feasibility. The Client 'GJEPC' provided suggestions and comments on the report, and clarifications on the questions presented. Further course of action was also discussed with GJEPC post presentation.

The key highlights of the discussion are as mentioned below:

- Gems and Jewellery industry in Maharashtra has to be studied in two broad categories

 Mumbai and rest of Maharashtra, as Mumbai caters to both national and international markets whereas, rest of Maharashtra (clusters in Akola, Jalgaon etc.) cater to only domestic and national market. This unique characteristic of clusters present in Mumbai is not present in any other city of India.
- 2. An additional USP of the India Jewellery Park Mumbai to be noted is that, it is being developed as a manufacturing zone rather than an SEZ. SEZs have their own challenges and pose restrictions on the manufacturing units of different nature. In theproposed IJPM, various clusters of Mumbai will come together to form a manufacturingzone and the shortcomings of the SEZ model would become an advantage for the proposed jewellery park.
- 3. The security provision envisaged for IJPM should be considered as one of the USPs of the proposed jewellery park, like provided in SEEPZ, Andheri and Bharat Diamond Bourse, BKC.
- 4. Technology Upgradation Fund Scheme (TUFS) to be analysed as a part of the study, to check how it can be clubbed with other schemes for MSMEs to provide maximum benefits to the manufacturing units.
- 5. Study of the estimated cost of the offices in Surat Diamond Bourse, Gujarat to be done by EY. The current rate is INR 9,000 per sqft which is higher compared to the proposed rate of INR 5,000 to 6,000 per sq.ft.
- 6. The case study of Grand Bazar, Turkey to be included in the report as the objective of developing the Grand Bazar was very similar to that of IJPM and it is also considered to be one of the best cluster development schemes in the world. The nature of the jewellery industry was also very similar to that of Zaveri Bazar.
- 7. EY provided clarification on RERA Act not being applicable for the jewellery park, as IJPM is an industrial park and not a commercial or residential project.



- 8. Space requirement of around 20,000 dormitories was captured to house Karigarsinside the jewellery park during the stakeholder consultation. GJEPC has suggested that accommodation facility for the Karigars should be planned outside the jewellery park in the nearby areas like Shilphata under the Pradhan Mantri Awas Yojana (PMAY) scheme. However, a small structure for staff accommodation for about 500 odd people to be considered in the master plan.
- 9. During the signing of the MoU with MIDC, it was agreed that the water body will be a part of the jewellery park provided the SPV of the park will look after the development and maintenance of the water body, in the presence of then Hon'ble Chief Minister Shri Devendra Fadnavis and present Hon'ble Minister Industries Shri Subhash Desai.
- 10. Alternate master plans were discussed with GJEPC with different FSI variations. Option 1 with FSI utilization of 3 is to be considered for further detailing.
- 11. Due to the height restriction of 97 meters, the maximum floor rise which could be achieved is 27. The minimum height of the floors to be considered is 3.6 meters (for small and mid-size units) and can go up to maximum of 5 meters (for large units). Height of 3.7 meters would be less as per GJEPC. Ecourbs suggested to go for 4 meters and maximum of up to 5 meters, to which GJEPC affirmed.
- 12. GJEPC affirmed of the size variations considered for the Karkhana units as appropriate. Final changes can be made after capturing requirements from the proposed stakeholder meetings.
- 13. While laying out the masterplan, by-laws were considered and as per the Maharashtra Gems and Jewellery Park Policy 2018, ratio of 80:20 for industrial use to other activities has been achieved.
- 14. GJEPC suggested that the hotel should accommodate not more than 100 rooms and proposed building of hotel to be done by other developers. The design should be such that retail and commercial spaces are at the bottom and above floors have the big conference rooms and banquets, with hotel operations at the top.
- 15. Individual plot sale has to be reconsidered as its maintenance might not fall under the purview of the jewellery park management. EY suggested to sell the permissible built up area on the plot to the potential buyers. It was decided to take a final call on it based on the feedback received from the subsequent stakeholder meetings.
- 16. GJEPC suggested to keep separate accesses for industrial, commercial and residential areas. The design should be such that it has separate entries for pedestrians and vehicles as both require frisking. More entry/exit points should be considered for vehicle movement. There should be at least 5 vehicle entries at a time inside the park. If only a single entrance is provided, then it should have 5 lanes to handle the peak hour traffic. Ecourbs explained that the entrances of retail and commercial space can be kept separate from that of the industrial space, however it will change as the layout of the park will change as per the new drawings of the plot received from MIDC on 8 October 2020.
- 17. Space for open exhibition ground is kept separate, also affirmed by GJEPC.
- 18. GJEPC suggested to keep the hotel and retail building in the front and the accommodation building at the back, with separate access from the other road. Ecourbs team affirmed.
- 19. Parking space of 40% built up area has been considered with 3 levels of underground basements.
- 20. Secured zones to be clearly demarcated. Commercial and industrial areas should have distinct security characteristics. The area demarcated for manufacturing should have high security as compared to other components such as common facilities, hotel and commercial spaces.



- 21. EY team communicated that provision for a helipad will not possible to incorporate inside the park as per rules of the helipad policy.
- 22. It was discussed that unsold space will be kept for rentals with IJPM and would be leased further on to the occupants, to which GJEPC affirmed.
- 23. EY explained that security aspect has been considered as one of the most important components to be included while conceptualising the park and the related costs have been included as part of overall project cost.
- 24. GJEPC explained that part funding of the project is possible (~56 crore as per current assumptions) however, a big gap would be difficult to be funded by GJEPC in case of paucity of funds.
- 25. EY explained that as per the assumptions considered, project is generating enough cash and GJEPC will be able to recover their initial investment from the project. Also, it will be able to buy the portion of property through excess cash generated which hasbeen assumed to be provided on lease basis.
- 26. GJEPC requested to re-confirm the loading factor on assumed carpet area and check whether it is as per the current market trends.
- 27. GJEPC requested to check the saleability of the project at the assumed sale price by conducting more stakeholder discussions. In addition, they suggested to have an online zoom meeting with potential buyers to check their willingness to purchase the property at proposed prices.
- 28. EY explained that sale phasing of the project is considered on an aggressive side as most surveyed stakeholders firmly agreed to be an occupant for the upcoming park and the sales collection frequency has been assumed as per normal real estate projects (construction linked) and will be similar for the case of gems and jewellery park.
- 29. EY explained that in case of shortage of funds during project implementation, funding from Debt for short-term period can also be considered. GJEPC suggested EY to prepare contingency plans for funding the project if the sales are not achieved. Optionssuch as debt or deferred payment (Easy Monthly Instalments EMI) options could be considered.
- 30. GJEPC enquired whether the potential buyers would be able to get loans from banks against the property they are seeking to buy to which EY explained that they shall be able to get bank loans for the same.
- 31. EY requested GJEPC's support in getting the signed and sealed project land boundary from MIDC and avail more responses for online google survey form from GJEPC's members.
- 32. GJEPC will support EY in conducting the stakeholder meetings with big, medium and small size units to capture their requirement, sentiments to move to the proposed park and willingness to pay the indicated price point.
- 33. EY to provide marketing plan which shall include funding availability and options, support from government schemes to gauge saleability of the project.



2. Minutes of Meeting - Gold Jewellery Manufacturing Stakeholders

2.1 Meeting with AR Gold Pvt Ltd

Date of Meeting	:	24 August 2020
Time	:	15:30hrs to 17:00hrs
Venue	:	A-144/7, MIDC Industrial Area, Mahape, Navi Mumbai, Maharashtra

Meeting Attendees:

Organization	Name & Designation
AR Gold Pvt Ltd	Shri Arvind Ranawat, Chairman
Ernst & Young LLP	 Ms. Keshika, Vice President Mr. Ritesh Baijal, Manager Ms. Vandana Pratap, Senior Consultant Mr. Sarim Khan, Consultant

Meeting Agenda:

Stakeholder consultation meeting to understand the value chain of Gold Jewellery manufacturing, understand the operations and inputs/expectations from the upcoming Gems and Jewellery Park.

Key Discussion Points:

The meeting kick started with Mr. Ranawat clearing the agenda of the meeting followed by answering the questions presented before him. Mr. Ranawat gave valuable insights about setting up a Gold Jewellery manufacturing factory and the important points of consideration while planning the Gems and Jewellery Park.

- 1. About AR Gold Pvt Ltd:
 - a. AR Gold is the 2nd largest plain gold jewellery manufacturing factory in India. The factory is built in 60,000 sqft and has additional 40,000 sqft of land for future expansion. It has a total employee strength of 400 with manufacturing capacity of 50kg of gold chains per day and 20 tonnes in a year. AR Gold produces jewellery using both mechanized and hand-made processes and it takes 36 hours to 15 days to produce a single piece of jewellery based on the jewellery design.
 - b. 98% of the machines used for manufacturing jewellery are imported from Italy and Germany. These machines can cost upto INR 2.5 crore depending on the critical process performed by the machine such as laser cutting.

2. Raw Material sourcing:

- a. Raw material (Gold) is procured through banks and refineries. Refineries melt gold jewellery and process it back to the raw form and then sell it in the market. For setting up a refinery, typical space required is 2000 sqft to 3000 sq.ft. If there is a large requirement by a big player, then the size can go upto 10,000 sq.ft.
- 3. Infrastructure requirement:



- a. There is requirement of Sulphuric and Nitric acid in the process of neutralization of the chemical residue coming out of the refinery. The water used in the refinery has to be neutralized before giving it back to the MIDC as per MIDC rules. The water is then drained by MIDC using their own process for which MIDC charges the industries. AR Gold has an ETP installed with a discharge capacity of 2000 litre per day.
- b. Water requirement of the factory is 20,000 litre per day. MIDC provides 24x7 water supply and there has been no shortage of water observed. Currently, due to COVID-19, the consumption of the factory has gone up to 40,000 litre per day as 200 workers are residing in the factory itself.
- c. AR Gold hired two buildings near to the factory to provide shelter for Karigars.
- d. Major components of a jewellery park should constitute security, logistics, banking, cargo, customs, vault and hallmarking facility, ETP and scrubbers (for fume/gas treatment). Two separate pipelines for ETP and Fume should be provided. to be provided.

4. Space requirement:

- a. Usual requirement of a unit of Zaveri Bazar will have a requirement of 500 sqft of space. For a floor in a building assuming a size of 20,000 sqft, it is preferred to provide with Galas of 500 sqft of makeshift style. Based on the requirement, a unit can buy multiple Galas.
- b. The industrial land rate in MIDC area is approximately INR 3,000 per sq.ft. The rent charged per sqft in the residential area nearby is as per INR 3,000 per sq.ft.
- c. It is preferred to have land for commercial use on the ground floors and the manufacturing units on the upper floors, as observed in China also.
- d. 3.5 FSI is available in Mahape area. Lobby, staircase, lift, meeting area and parking do not come under the FSI and 10% of the construction area is FSI free. Basement of the building can be utilized for parking, ground floor for commercial space and upper floors for manufacturing units. G+4 is optimum and it can go up to 6 floors, however, it should be noted that by increasing the height of the structure, the digging has to be done appropriately which is an added cost. To save construction cost, 5 to 6 floor building is appropriate.
- e. Mr. Ranawat suggested that FSI should be considered on the total space i.e. 22 acre and not only on the built-up space. The cost of per sqft land should come around INR 2,000.

5. Clearance / permission requirement:

- a. Individual permissions are not required as pollution and fire clearance will be taken for the jewellery park. Only basic GST and business registration will be required for a unit to start their operations.
- b. After the withdrawal of Octroi and Local Body Tax (LBT), and introduction of GST, the taxation became more simplified and it facilitated business owners to look for more options to move out and set up their factories in other regions.

6. Gold jewellery manufacturing process:

- a. Gold jewellery manufacturing process:
 - i. Raw material
 - ii. Office for distribution
 - iii. Melting of Gold Alloy making
 - iv. Wire / Strip / Casting (based on jewellery design)
 - v. Wire
 - vi. Chain making



- vii. Karigar filing
- viii. Polishing and cleaning
- ix. Stone setting and soldering
- x. Quality control
- b. Machines are used for various processes in jewellery manufacturing process like melting, weighing, wire drawing, chain making, casting and laser cutting. Majority of the machine after 1980 are sourced from Italy.
- c. Observations during facility tour:
 - i. Control room: For distribution of Gold and jewellery tagging of each item produced.
 - ii. Wire making department: about 40 machines occupying space of ~2x2 ft. Total production capacity of 100 kg per day.
 - iii. Chain making: Karigars making linkages. Facility not running on full capacity, only few Karigars were working on workstation of ~2x3 ft space.
 - iv. Fall ceiling with air conditioner to make a closed environment. The leftover vertical space used to make mezzanine floor to occupy Karigars for hand-made jewellery.
 - v. Fire exit on every 20 meters.
 - vi. Power required, approximately 500 kwh.
 - vii. Height of the ceiling 14 ft for 1 FSI and divided into mezzanine floor.
 - viii. A small refining unit with chemicals.
 - ix. Linear manufacturing process with jewellery moving from one department to another as per the design.
 - x. Machines weighing up to 2 tonnes.
 - xi. 3 floors of replicated manufacturing process on each floor with small changes as per jewellery design.

7. Business relocation and expansion:

- a. Jewellery businesses are mostly driven with the thought process of the business owner. If the factory is shifted, the Karigars will also shift and it maynot be a challenge. Another big motivation for the Karigars is the provision of safety and facilities provided by the business owners for their social upliftment.
- b. All the three markets have to be considered for the study for Gems and Jewellery Park i.e. Gold, Diamond and Imitation jewellery. Major players are based out of Jogeshwari, Goregaon and Kandivali for imitation jewellery, and Zaveri Bazar, Sewri, Lower Parel, Borivali and Dahisar for Gold jewellery.

2.2 Meeting with Trident Corporation

Date of Meeting	:	4 September 2020
Time	:	14:00hrs to 15:30hrs
Venue	:	Trident Jewels, Bharat Industry, Gala no.223 & 222, T.J Road, Sewri (West) Mumbai - 400015, Maharashtra

Meeting Attendees:

Organization	Name & Designation
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Trident Corporation	Mr. Aayod Jain, DirectorMr. Avinash Jain, Director
Ernst & Young LLP	Mr. Ritesh Baijal, ManagerMr. Sarim Khan, Consultant

Meeting Agenda:

Stakeholder consultation meeting to understand the value chain of Gold Jewellery manufacturing, understand the operations and inputs/expectations from the upcoming Gems and Jewellery Park.

Key Discussion Points:

The meeting kick started as per the agenda with Mr. Aayod Jain and Mr. Avinash Jain. EY received valuable insights about setting up a mid-size Gold Jewellery manufacturing factory and the important points of consideration while planning the Gems and Jewellery Park.

- 1. About Trident Corporation:
 - a. Trident Corporation is a Gold Mangalsutra manufacturing unit based in Bharat Industrial Estate, Sewri, Mumbai. The manufacturing unit occupies 3,000 sqft of space in the estate with 3 Galas of unit size of 1,000 sq.ft. Trident has an employee strength of 100 people out of which, 85 are Karigars, mostlyBengalis and Maharashtrians. The jewellery manufacturing process adopted byTrident is an assemble model, where they procure different parts of the Mangalsutra from various vendors and they assemble it in their factory with the help of Karigars. Production is based on the requirement from the market. Trident is the wholesaler for Mangalsutra and sell the products to the retailers.
 - b. Major market for Mangalsutra is domestic and there is no export. The business is very seasonal and depends majorly on weddings, festivals and exhibitions (IIJS and Signature).
 - c. There are about 20 jewellery units in Bharat Industrial Estate. It has 5 floors with approximately 30,000 sqft area per floor. The current rate in the area per sqft is INR 15,000.
- 2. Infrastructure requirement:
 - a. Logistics

Logistics is crucial for Trident as they have an assembly model for jewellery manufacturing.

b. Refinery

The waste produced in the assembly model is very low due to which there is no consistent need of a refinery, however, they have a requirement in every 6-8 months

- c. Worker accommodation
- Dorms or a nearby accommodation facility for Karigars is very important
- d. Exhibition cum multi-purpose space for meetings
- e. IT infrastructure

Post lock-down, a lot of buyers and sellers have adopted online meetings as a mode of interaction making internet connectivity important for jewelers

f. Gas pipeline

LPG gas pipeline used for the process of soldering

- g. Security
- h. Scrubbers
- i. Open space in Galas (near windows) for placing furnaces



3. Challenges:

a. Presence of the whole ecosystem

The biggest challenge faced in an assembly model is the unavailability of all the stakeholders in proximity. Even if there is one link missing, the entire assembly model fails to operate.

b. Proximity

The businesses have become service oriented and timely deliveries is the utmost priority. Sales and production office have to nearby, preferably within 5 kms radius.

- c. Legalities
 - i. Renewal of shop and establishment license is becoming a challenge now a days due to constant complaints made by residents of Zaveri Bazar and Sewri area for smoke and fumes coming out of industrial units.
 - ii. BMC officers receive complaints from residents regarding air pollution. Also, small units dispose chemicals directly into the Nallas of Zaveri bazar which are hazardous in nature. So, constant harassment from government officers is a challenge even after all the permissions are secured by the manufacturing units.
- d. Accommodation provision for Karigars

4. Manufacturing process:

For Mangalsutra manufacturing, firstly all the components are sourced from varous vendor, gathered together and then given to Karigars to work upon as per the designs. Trident designs the jewellery and as per the design, sources material locally (from Zaveri Bazar or nearby areas). Some amount of Gold is also procured for making wire but the Gold chains required are directly bought. If there is a requirement, they use Swarovski diamonds for studded Mangalsutra. Karigars sit on the ground on their work-station called Bakda to perform various operations. The manufacturing process is as follows:

- a. Assorting the required pieces of a Mangalsutra
- b. Small packets are made consisting of parts of each Mangalsutra to be distributed amongst the Karigars
- c. Filing, each Karigar works on the Mangalsutra as per the design requirement
- d. Setting, stones or Tukdas are set
- e. Soldering, parts are joined using Hydramax machine
- f. Polishing
- g. Quality control

5. Business relocation and expansion:

Trident will wait. For their business, the priority is availability of the whole ecosystem and their dependency on the ecosystem. They are positive to move, provided every stakeholder moves. They are also positive about the stakeholders moving to the proposed park due to the challenges faced like renewal of shop and establishment license, environment clearance, other harassments and space constraints/cost. Majority of the units from Zaveri Bazar would not be ready to pay upfront of 30-40% until there is mandate or some other incentives. For expansion, they may look for 5,000 sqft of space in Mahape.

2.3 Meeting with Zar Jewels Pvt Ltd



Date of Meeting	:	4 September 2020
Time	:	16:30hrs to 17:30hrs
Venue	:	Zar Jewels Private Limited, Ground floor, Peninsula spenta, Mathuradas mill compound, N. M. Joshi Marg, Lower Parel(W), Mumbai - 400 013

Meeting Attendees:

Organization	Name & Designation
Zar Jewels	Mr. Bharat Takhtani, Director
Ernst & Young LLP	Mr. Ritesh Baijal, ManagerMr. Sarim Khan, Consultant

Meeting Agenda:

Stakeholder consultation meeting to understand the value chain of Gold Jewellery manufacturing, understand the operations and inputs/expectations from the upcoming Gems and Jewellery Park.

Key Discussion Points:

The meeting kick started as per the agenda with Mr. Bharat Takhtani. EY received valuable insights about setting up a mechanized Gold Jewellery manufacturing factory and the important points of consideration while planning the Gems and Jewellery Park.

1. About Zar Jewels:

Zar Jewels is a Gold Bangles manufacturing unit based in Mathuradas mill compound, Lower Parel, Mumbai. The manufacturing unit occupies plot space of 12,000 sqft in the compound and has an employee strength of 300 people with about 250 Karigars. The rent of the plot is INR 100 per sq.ft. The jewellery manufacturing process is completely mechanized. The production capacity of the factory is based on the requirement from the market. Zar has a distribution model and there is no retail.

2. Infrastructure requirement:

- a. Industrial lift
 - i. To carry machinery which can weigh up to 3 tons. The capacity of the lift should be up to 5 ton
 - ii. For machinery whose dimensions do not match to that of the lift, there should be a provision for cranes and some arrangement in the façade of the building from which the machines can be lifted and inserted on the desired floor.
- b. Gas pipeline
- c. Air Compressor or central air compressing unit with some space on the outside of the building with piping arrangement
- d. Commuting local
- e. Dormitory or affordable housing system
- f. ETP
- g. Scrubbers
- h. Refinery
- i. Market bullion
- j. Banks



- k. Customs
- l. Logistic providers
- m. Security
- n. Recreational ground or club house: Space for Cricket or Football
- o. Space for cylinders
- p. Canteen
- q. STP
- r. Tool and equipment vendor
- s. IT infrastructure

3. Other requirements:

- a. Vastu Compliance
- b. 24x7 plumber and electrician support

4. Challenges:

- a. Common canteen for Karigars
 - Poaching can become a challenge and can make it difficult for companies to retain the Karigars.
- b. Financing
 - i. Upfront payment of 30-40% to purchase a plot is a bit difficult for jewellers as they run their business on capital (cash). If a major portion of the capital is blocked for which the returns can only be seen in 3-5 years of period, then it becomes risky for jewellery business. It is better to ask for payment in installments e.g. 5-10% to make it easy for jewellers.
 - ii. Upfront payment can be made if there is a guarantee of no delay in construction and the project is ready.
- c. Legalities

BMC officers receive complaints from residents regarding air pollution due to smoke and fumes coming out of the industrial unit. Constant harassment from government officers is a challenge even after all the permissions are secured by the manufacturing unit.

5. Business relocation and expansion:

Zar is positive and is ready to move to Navi Mumbai. Main motivation is to move out of the rented premise and purchase their own plot and build own factory. They are ready for a deferred model of payment (in installments), upfront payment of 30-40% is a bit challenging as their business runs on capital. Their preference for purchasing Galas or land will be in multiples of 5,000 sq.ft.

2.4 Meeting with Vasupati Jewellers India Pvt Ltd

Date of Meeting	:	11 September 2020
Time	:	14:00hrs to 15:30hrs
Venue	:	226/230, Giriraj Building, Office no. 104, 1 st Floor, Sheikh Menon Street, Zaveri Bazaar, Mumbai, Maharashtra 400002

Meeting Attendees:

Organization Name & Designation



Vasupati Jewellers	• Mr. Mansukh Kothari, Owner of Vasupati Jewellers and Member of GJEPC
Ernst & Young LLP	 Ms. Keshika, Vice President Mr. Ritesh Baijal, Manager Ms. Vandana Pratap, Senior Consultant Mr. Sarim Khan, Consultant
GJEPC	Mr. Abhizar Bootwala, Project Manager

Meeting Agenda:

Stakeholder consultation meeting with Mr. Mansukh Kothari to understand the manufacturing process of hand-made Gold jewellery and gather insights on the unstructured ecosystem of jewellery manufacturing in Zaveri Bazar.

Key Discussion Points:

The meeting started with Mr. Kothari giving insights and inputs on requirement for handmade jewellery manufacturing unit. EY received valuable points of consideration for planning the Gems and Jewellery Park.

1. About Zaveri Bazar:

- a. Zaveri Bazar houses only handmade jewellery manufacturing units. Diamond, gold and platinum jewellery is manufactured in the units ranging from 100 to 1000 sqft in size. About 25% units in the Zaveri Bazar on rent or lease, rest are owned through Paghdi system.
- b. The jewellery hub, packs close to 8,000 to 10,000 units in an area estimated around 1 square kilometre. It includes raw material suppliers, tool suppliers, gemstone suppliers, wholesalers, small factories and workshops.
- c. The size of each unit ranges from 100 sqft to 2 ,000 sq.ft. The rate per square feet in Zaveri Bazar is based on supply and demand. Space for commercial and trading activities varies from INR 50,000 to INR 1,00,000 per sq.ft. People pay premium to purchase space in Zaveri Bazar. For manufacturing units on upper floors, price can go from INR 30,000 to INR 50,000 per sqft, which is also an indicative price as it again depends on supplyand demand.
- d. At any given point, there are about 80,000 to 90,000 workers are working in the units. Karigars stay in their workshops / units and in rented spaces nearby. The shop owners come from all across Mumbai.

2. Manufacturing process:

- a. A lot of jewellers at Zaveri Bazar have adopted Contract Manufacturing (job work) method for their jewellery production. Since there is availability of Karigars having expertise in various processes, jewellers find it easy to use their unique expertise to produce an exquisite piece of jewellery.
- b. A jeweller buys Gold and distributes it along with the design to various Jauhari whose expertise is required to complete the job works. These Jauharis have their own workshops with their own set of Karigars who work on the piece. Upon completion of the job, the product is either submitted back to the jeweller or handed over to the next Karigar for further processing of the piece as per instructions of the jeweller.



- c. Post the completion of job works, polishing and quality check is done to complete the process.
- d. Machines used for the handmade jewellery are very limited and are very small in size also as compared to those use in completely mechanized set up. The most common machines used are wire drawing machine, hand press and a small furnace. Rest all is Karigar's tools.
- e. Stakeholders of handmade jewellery manufacturing in Zaveri Bazar:
 - i. Raw material supplier (wax, gemstones, chemicals etc.)
 - ii. Tools and equipment supplier
 - iii. Catalogue supplier
 - iv. Service and AMC providers for machinery
 - v. Die cutting unit
 - vi. Ball maker
 - vii. Meenakari Karigar
 - viii. Engraving unit
 - ix. Ari cutter
 - x. Polishing unit
 - xi. Rhodium plating unit
 - xii. Diamond cutting unit
 - xiii. Setting unit
 - xiv. Chain maker
 - xv. Assayer or XRF machinery unit

3. Infrastructure requirements:

- a. ETP
- b. Scrubbers
- c. Gas pipeline
- d. Refinery
- e. Parking
- f. Hotel
- g. Multi-purpose halls for training, conferences, banquet hall and exhibitions
- h. Dormitory for 20,000 people or affordable housing facility in the radius of 4-5 kms from the jewellery park
- i. Canteen
- j. Recreational activities area

4. Value addition in handmade jewellery value chain:

In handmade jewellery, generally, Karigars earn 5%, wholesalers earn 10% and retailers earn upto 25-30%.

5. Suggestions:

- a. Handmade jewellery manufacturing units can go up on the higher floors, e.g. upto 10 floors since there is no heavy machinery required in the manufacturing process.
- b. Heavy machinery units or units with mechanized manufacturing processes can be put on lower floors like G+4 or can be given separate Galas in vertical format making it look like a row house or could be given plots also, where the jeweller can setup his own factory.
- c. Minimum space for a unit / Gala should be 300 sq.ft.
- d. 20% space should be planned to be given on lease and rent model.
- e. Security infrastructure should be as good as BDB's as the foot fall in Zaveri Bazar is around 50,000 to 60,000 people. Multiple entries, multiple lifts and broad staircase to be planned accordingly. It should have fire squad, rapid action force, internal fire station, camera setup, data center and control room.



- f. 2-3 high-rise towers going up to 15-20 floors can be planned to accommodate sales and trading units apart from commercial space. These towers will be separate for commercial activities and other towers housing manufacturing units.
- g. Height of the ceiling in the floors should not be too high to make a mezzanine floor, as it may pose risk to the structure of the building.
- h. Vastu compliance is required.
- i. Helipad should be planned on the high-rise.
- j. If separate CFC can be planned as per the requirement of the similar kinds of units placed in the units, it would be beneficial. For example, having a compressor in the CFC for a building where all the mechanized jewellery manufacturing units are places.
- k. The park design should also attract tourists and should also be used for educational purpose where students can come and see the manufacturing process of gold jewellery.
- l. USP of the proposed jewellery park should be affordable housing and facilities like school and hospitals for the benefit of the Karigars.
- m. With the support of GJEPC, trainings and seminars should be conducted to educate the Karigar community of Zaveri Bazar of the benefits they will be getting and convince them to move to the proposed jewellery park.
- n. Training and development programmes to be conducted by international delegates for upskilling of the Karigars.
- o. Centrally air-conditioned units and AHUs are not required in the industrial estate. It can be used in the commercial space and office towers.

6. Other comments:

- a. The idea of developing such a park is also to preserve the dying art of handmade jewellery making. In today's time, son of a Karigar does not want topursue a career of Karigar as there earnings, living conditions, hygiene, safety, hospitality and education becomes compromised. The need of the hour is to preserve this art and convert the unorganized sector into an organized sector. Vocational training programmes need to be conducted where the focus should be on handmade jewellery. There should be extensive campaign, promotion and marketing of handmade jewellery. In India, the price of a mechanized jewellery is more than that of handmade jewellery due to which, Karigars don'tearn what they are supposed to, which acts a demotivating factor for themselves and their future generation to pursue the art of handmade jewellery.
- b. Out of the total number of units in Zaveri Bazar, 3,000 to 4,000 units will be ready to move to the jewellery park. Their motivation to move would be:
 - i. Their own benefit and the movement of the whole ecosystem of Zaveri Bazar to the jewellery park
 - ii. Movement of the jeweller who gives contract manufacturing or job works to the Karigars

2.5 Meeting with SK Seth Jewellers

Date of Meeting : 11 September 2020



Time	:	16:00hrs to 16:30hrs
Venue	:	226/230, Giriraj Building, Shop No-201, 2nd Floor, Sheikh Menon Street, Zaveri Bazaar, Zaveri Bazaar, Mumbai, Maharashtra 400002

Meeting Attendees:

Organization	Name & Designation
SK Seth Jewellers	Mr. Mahesh Seth, Director
Ernst & Young LLP	Mr. Ritesh Baijal, ManagerMr. Sarim Khan, Consultant

Meeting Agenda:

Stakeholder consultation meeting with Mr. SK Seth to understand the manufacturing process of hand-made Gold jewellery and gather insights on the unstructured ecosystem of jewellery manufacturing in Zaveri Bazar.

Key Discussion Points:

The meeting started with Mr. Seth giving insights and inputs on requirement for handmade jewellery manufacturing unit. EY received valuable points of consideration for planning the Gems and Jewellery Park.

- 1. About SK Seth Jewellers:
 - a. SK Seth jewelers are manufacture handmade gold jewellery. Their products include kundans, Jadau, gemstones, full sets among many others. They have a contract manufacturing setup to manufacture jewellery. With a sales office of 500 sqft in size in Zaveri Bazar and employee strength of 400, SK Seth has a capacity to produce 40-45 kg of gold jewellery per month.
 - b. Out of 400 employees, 350 are Karigars of the contract manufacturers. They have a vendor network of 40 partners with whom they engage for job works.
 - c. The reason behind having such manufacturing setup is due to legalities and issues like harassment from government officials over the complaints of smoke and fumes, chemicals drained in the Nallas, compliance with fire safety norms etc. With contract manufacturing setup, SK Seth is able to get its work done without having any liability.

2. Infrastructure requirement:

- a. Security
- b. ETP
- c. Scrubber
- d. Refinery
- e. Die shop
- f. Hall marking facility
- g. Vastu compliance
- h. IT infrastructure
- i. Catalogue supplier
- j. Studio for shooting (multi-purpose use premise)
- k. Canteen



- l. Training halls
- m. Dormitories

3. Challenges:

a. Commuting:

Since there is no station close to the jewellery park, nearest one about 4 kms, commuting for Karigars not staying nearby will become a challenge. There will be a lot of time wasted in commuting.

 b. Presence of the whole ecosystem: The biggest challenge faced in an contract manufacturing model is the unavailability of all the stakeholders in proximity. Even if there is one link missing, the entire model fails to operate

4. Business expansion:

SK Seth is positive to move to Navi Mumbai and would like to book a space of about 10,000 sqft in the jewellery park, however, they would prefer a rented model to occupy the space. To buy or to rent the space / Gala will completely depend on the business feasibility.

2.6 Meeting with Muskan Jewellers

Date of Meeting	:	11 September 2020
Time	:	17:00hrs to 17:30hrs
Venue	:	Zaveri Bazaar, Mumbai, Maharashtra 400002

Meeting Attendees:

Organization	Name & Designation
Muskan Jewellers	Mr. Jhonny, Jauhari and Director
Ernst & Young LLP	Mr. Ritesh Baijal, ManagerMr. Sarim Khan, Consultant

Meeting Agenda:

Stakeholder consultation meeting with Mr. Jhonny to understand the manufacturing process of hand-made Gold jewellery and gather insights on the ecosystem of jewellery manufacturing in Zaveri Bazar.

Key Discussion Points:

The meeting started with Mr. Jhonny giving insights and inputs on requirement of a contract manufacturer and a Karigar of handmade jewellery manufacturing unit. EY received valuable points of consideration for planning the Gems and Jewellery Park.

- 1. About Muskan Jewellers:
 - a. Muskan Jewellers is a contract manufacturing vendor for jewellers in Zaveri Bazar. Their products are handmade jewellery including Jadau and gemstone jewellery. Muskan's unit is setup in an area of 900 sqft on the 5th floor of a building. The 5th floor of which is converted into a mezzanine to make space for Karigars to sleep and eat.



- b. With 500 sqft on the 5th floor and 400 sqft on the mezzanine. Current rent of the premise is upto INR 60,000 for 1,000 sq.ft.
- c. Muskan has an employee strength of 25 Karigars. Most of the Karigars are married and have their families in their village in West Bengal. They go once or twice in a year for a small vacation to their homes. Food and accommodation is provided to the Karigars by Mr. Johnny.
- d. Mr. Johnny runs a shift of up to 16 hours in a day for 6 days a week. The workload completely depends on the job work received from the jewellers.

2. About Karigars of Zaveri Bazar:

- a. There are about 6 lakh Bengali Karigars based in the Zaveri Bazar and Masjid Bundar area.
- b. The Karigars in a particular unit are mostly family or friends in relation.
- c. 70% of the Karigars buy the place where they wish to setup their unit using Paghdi system and 30% go for rented accommodation. Karigars prefer buying model as they do not wish to move from place to another after setting up the whole manufacturing unit.
- d. For 100 sqft of area, current rent in Zaveri Bazar is INR 12,500 with INR 1 lakh deposit.
- e. There are a total of 7 associations of Bengali Karigars and workers in the Zaveri Bazar.
- f. Some Karigars cook food in the unit itself and some have a dabba system. There is always a small pantry required for the Karigars in the unit.

3. Manufacturing process:

- a. Muskan being a contract manufacturer, gets some of the manufacturing job done from the other contract manufacturers. Since they cannot employee Karigars of all the specialized skillsets, they also find it cheaper and better to get it done from a specialized Karigar with the required skillset.
- b. Outside stakeholders for jewellery manufacturing include:
 - i. Engraving facility
 - ii. Nakkashi Karigar
 - iii. Ball maker
 - iv. Casting unit
 - v. Polishing unit
 - vi. Die cutting unit
 - vii. Wire drawing

4. Challenges:

Harassment from government officials due to air pollution. Even after securing all the required permission, still officials harass the Karigars.

5. Business expansion:

- a. The demand of handmade jewellery manufacturing is fluctuating and is never constant. Currently it is very low. For contract manufacturers to move to jewellery park, there will be some initial challenge as most of the Karigars have bought the space in Zaveri Bazar, which they will not like to leave, as, Zaveri Bazar is currently the market as well as the hub of manufacturing. Also, unavailability of the whole ecosystem and all the stakeholders will become a big challenge to manufacture jewellery.
- b. Karigars will expect some kind of incentives to get attracted to the idea of shifting to the jewellery park as they are very comfortable in the current setup.



2.7 Meeting with SR Vishwas Gold

Date of Meeting	:	11 September 2020
Time	:	18:00hrs to 18:30hrs
Venue	:	Zaveri Bazaar, Mumbai, Maharashtra 400002

Meeting Attendees:

Organization	Name & Designation
SR Vishwas	Mr. Shariful Rahman, Jauhari
Ernst & Young LLP	Mr. Ritesh Baijal, ManagerMr. Sarim Khan, Consultant

Meeting Agenda:

Stakeholder consultation meeting with Mr. Rehman to understand the manufacturing process of hand-made Gold jewellery and gather insights on the ecosystem of jewellery manufacturing in Zaveri Bazar.

Key Discussion Points:

The meeting started with Mr. Rehman giving insights and inputs on requirement of a contract manufacturer and a Karigar of handmade jewellery manufacturing unit. EY received valuable points of consideration for planning the Gems and Jewellery Park.

1. About SR Vishwas Gold:

- a. SR Vishwas Gold is a contract manufacturing vendor for jewellers in Zaveri Bazar. Their products are chain, pendant for handmade jewellery. The unit is setup in an area of 280 sqft on the 3rd floor of a residential building. Each room of the building is converted into Galas and manufacturing units run in these rooms.
- b. There are total 10 Karigars who sleep and eat in the same space. After finishing their jobs, they shift their Bakhdas (workstation) on one side and make space for eating and sleeping.
- c. The rent of the premise is INR 12,500.
- d. Karigars work for 12 hours per day, 6 days in a week.

2. Manufacturing process:

- a. SR Vishwas being a contract manufacturer, gets some part of the manufacturing job done from the other contract manufacturers.
- b. Outside stakeholders for jewellery manufacturing include:
 - i. Ball maker
 - ii. Polishing unit
 - iii. Die cutting unit
 - iv. Wire drawing
 - v. Chain maker
 - vi. Sheet Paat



3. Business expansion:

Karigars are willing to move to the proposed jewellery park, provided, the following points are considered:

- i. Guarantee of job work, all round the year.
- ii. Provision of a dormitory or cheap accommodation.
- iii. Availability of all the linkages and the complete ecosystem.

2.8 Meeting with Shineshilpi Jewellers Pvt Ltd

Date of Meeting	:	11 September 2020
Time	:	17:30hrs to 18:00hrs
Venue	:	2 nd floor, Daya Mandir Building, 125/127, Mumbadevi Rd, Zaveri Bazar, Mumbai, Maharashtra 400003

Meeting Attendees:

Organization	Name & Designation
Shineshilpi Jewellers	Mr. Pramod Mehta, Director
Ernst & Young LLP	Ms. Keshika, Vice PresidentMs. Vandana Pratap, Senior Consultant

Meeting Agenda:

Stakeholder consultation meeting with Mr. Mehta to understand the manufacturing process of hand-made Gold jewellery and gather insights on the ecosystem of jewellery manufacturing in Zaveri Bazar.

Key Discussion Points:

The meeting started as per the agenda, with Mr. Mehta giving insights and inputs on requirement of a handmade jewelley manufacturer. EY gathered valuable inputs for planning the Gems and Jewellery Park.

- 1. About Shineshilpi Jewellers:
 - a. Shineshilpi Jewellers is a handmade jewellery manufacturer who has adopted contract manufacturing model for the production of jewellery. Their products include Mangalsutra, Bombay and Bengal jewellery. Shineshilpi are wholesalers and cater to domestic demand.
 - b. The size of their sales office is 2,000 sqft with employee strength of 15. They have contracts with 100 Jauharis (main Karigars) and have total manpower of about 1,000 Karigars. Current rent in the area ranges from INR 60,000 to 70,000 per sqft, and it depends on floor rise and demand-supply.
- 2. Infrastructure requirement:
 - a. Exhibition centre of the size of NESCO, Goregaon, which can accommodate exhibitions of the scale of IIJS
 - b. Hotels



- c. Accommodation for Karigars
- d. Training and multi-purpose hallse. Tools and equipment vendors
- f. Hall marking facility
- g. Logistic providers

3. Manufacturing process:

- a. Shineshilpi being a contract manufacturer, gets manufacturing job done from the other contract manufacturers.
- b. Outside stakeholders for jewellery manufacturing required, include:
 - i. Melting
 - ii. Taar paata
 - iii. Polishing unit
 - iv. Ball maker
 - v. Die works unit

4. Challenges:

a. Space requirement:

Cost of the space required to accommodate a 1,000 Karigars is very high in Zaveri Bazar due to which contract manufacturing model has been adopted.

b. Legal

Harassment from government officials pertaining to complaints coming from residents of Zaveri Bazar and nearby area. Fumes (smoke) coming out from manufacturing units and fire are the most common complaints.

5. Business Expansion:

- a. Shineshilpi will definitely move to the proposed jewellery park and they are eagerly waiting for a heads up to book space in the jewellery park. Their area requirement in the park would range in between 50,000 - 1,00,000 sq.ft. They have plans to allocate the space to house the Karigars accordingly. Since Shineshilpi is into handmade jewellery manufacturing, they do not have any issues in occupying space on the higher floors of high- rise towers. The requirement of machinery is minimal for their work.
- b. Shineshilpi would like to have both, their sales office and manufacturing unit in the jewellery park. They also like the location as it close to the new upcoming airport in Navi Mumbai. For Shineshilpi, presence of the complete ecosystem of jewellers is the most important determinant for moving to Navi Mumbai.



3. Minutes of Meeting - Diamond/Stone Studded Gold Jewellery Manufacturing Stakeholders

3.1 Meeting with Kama Schachter Jewellery Pvt Ltd

Date of Meeting	:	26 August 2020
Time	:	10:30hrs to 12:30hrs
Venue	:	601/604, Multi Stories Building, Non-AC Zone, SEEPZ Road, MIDC, Andheri East, Mumbai, Maharashtra

Meeting Attendees:

Organization	Name & Designation
Kama Schachter	Ms. Deepti VaidyaMr. Prateek, Process Improvement
Ernst & Young LLP	 Mr. Ritesh Baijal, Manager Ms. Vandana Pratap, Senior Consultant Mr. Sarim Khan, Consultant

Meeting Agenda:

Stakeholder consultation meeting to understand the value chain of Diamond Studded Gold Jewellery manufacturing, understand the operations and inputs/expectations from the upcoming Gems and Jewellery Park.

Key Discussion Points:

The meeting kick started with a brief background given by Ms. Vaidya on Kama Schachter followed by facility tour. Post tour, EY presented questions before Ms. Vaidya and she gave valuable insights about setting up a Diamond Studded Gold Jewellery manufacturing factory and the important points of consideration while planning the Gems and Jewellery Park.

1. About Kama Schachter Pvt Ltd:

- a. Mr. Colin Shah founded Kama Jewelry in 1996 and formed joint venture with Leo Schachter in 2007. Kama's partnership with Leo Schachter, gave Kama access to a wide variety of diamonds in terms of clarity and weight from USA, and helped catering to markets worldwide. Today, Kama Schachter ranks among the top ten manufacturers and exporters of diamond jewelry in Asia. Kama Schachter has three factories in India and their major markets are India, USA, Europe, Middle East and Australia. It is Best Practices Principles (BPP) compliant company and adheres to the norms laid out by Responsible Jewelry Council (RJC).
- b. The company has an employee strength of 400 with male female ration of 70

 30. Women are employed for delicate processes like waxing. Company also runs a multi-skilling program for the Karigars employed. Most of the Karigars have passed high school with majority of them coming from West Bengal and Orissa. The company provides training to freshers of 2-3 months on the job, to



make them equipped. The production capacity of the factory is 500 pieces per day.

2. Jewellery manufacturing process:

Kama Schachter has a cellular manufacturing layout for jewellery manufacturing, also called, factory in a factory layout. The reason behind adopting the layout is to maintain product differentiation and dedicated client service. Kama Schachter has 8 such cells (factories) under one roof. The factory has some common facilities like designing, waxing, investment casting, refining, QC and ETP. For each jewellery article to be produced, it has to pass through 22-23 hands.

- a. Jewellery designing
 - i. Rough 3D design and development on CAD software
 - ii. Product development team uses rapid prototyping using CAM machine
 - iii. Wax mould prepared with design embedded. If the design has to repeated on more than 20 pieces, then silver is used to prepare the mould
- b. Waxing
 - i. Wax is pumped into the mould to prepare a wax prototype to check and confirm the design and dimensions
 - ii. If the dimensions are not precise, then workers work on the mould to refine the mould design
- c. Casting
 - i. The wax prototype is put it into a cylinder filled with metal sand or granule
 - ii. The cylinder is heated which melts the wax leaving the mould behind. This process is called dewaxing
 - iii. After the wax is removed and the casting is set, gold is put in the form of granules inside the casting. The casting is then put inside the furnace and is heated and pressurized overnight. This whole process iscalled investment casting
 - iv. The output of the investment casting is tree stem, the branches of which are of the shape of rings or desired design articles, which are then cut using pliers, also called screw cut
 - v. 3-4 persons are required to carry out investment casting process along with 1 supervisor
 - vi. The produced articles are now sent for QC
- d. Filing
 - i. The articles are sent to the Karigars for filing post QC
 - ii. Karigars file the article, buff it and then solder as per the design requirement
 - iii. Hand setting and metal setting is completed
 - iv. Karigars have a KRA to complete work on 20 pieces per person
- e. Polishing
 - i. Karigars polish the studded jewellery piece to the level of design required
 - ii. If there are some portions which are very hard to reach and work upon using human hands then polishing machine is used



f. Rhodium

As per design requirement, rhodium plating is carried out on certain set of articles for extra shine and durability

- g. Final quality check
 - i. Quality checks are performed almost after every step of the process is completed in order to ensure quality
 - ii. If any article misses any check and is found faulty then experienced Karigars work on the piece
- h. Refining
 - i. The residue from the workstations bins, mats, slippers etc. is collected then processed to recover the Gold lost after each step of the manufacturing
 - ii. There is a gross loss of ~20% Gold during manufacturing and 90% of it is recovered using the refining process, leaving a net loss of about 2%
 - iii. The refining capacity of the refinery installed is 70-80 litre per day Discharge
 - i. For liquid discharge, company has an own ETP
 - ii. The acidic water is neutralized using caustic soda
 - iii. For gaseous discharge, company has scrubbers installed on the roof

3. Space requirement:

i.

Kama Schachter SEEPZ factory is set up in 36,000 sq.ft. The company also has another factory in Goregaon with a similar set up to cater domestic market. The factory in Goregaon is set up in 18,000 sqft area.

4. Utility requirement:

- a. Power
 - i. Heavy power requirement for refinery and casting machines
 - ii. Electricity bill generated of approximately INR 8-9 lakh per month
- b. Water

Water is required for usual day to day requirement

5. Infrastructure requirement:

- a. Customs
- b. Logistics
- c. Vaults
- d. Office space
- e. Exhibition / event holding area
- f. Training rooms
- g. Canteen
- h. Conference rooms

6. Worker requirement:

All the employees are local, and they come from Mumbai Metropolitan Region. Majority of the Karigars are from West Bengal and they have their own places to stay. There is no separate provision for accommodation or dormitory provided. There is only single shift. If there is a requirement, then only two shifts are incorporated.

- 7. Other requirements:
 - a. Chemicals
 - i. Caustic soda



- ii. Sulphuric acid
- iii. Nitric acid
- b. Machine spares and parts

8. Value addition:

While moving from one step to another in the value chain of jewellery manufacturing, the approximate value-added during manufacturing is 20%. Post manufacturing, when jewellery is sold to wholesalers, another 20% value is added. Finally, at the retail stage, 50%-60% value is added to the final product.

9. Business expansion:

Certainly, post COVID-19, when things get back to normal, Kama Schachter can definitely look at the Gems and Jewellery park for expansion is all the requirements are met. Also, considering the price difference of land in Mumbai (INR 9,000 to 12,000 per sqft) and in Navi Mumbai, Navi Mumbai will definitely be an attractive option for business expansion.

3.2 Meeting with A' Star Jewellery Pvt Ltd

Date of Meeting	:	26 August 2020
Time	:	13:30hrs to 15:30hrs
Venue	:	Asian House, Plot NO. F-11/12/5, WICEL, MIDC, Andheri East, Mumbai, Maharashtra

Meeting Attendees:

Organization	Name & Designation		
A' Star	Mr. Anand Shah		
Ernst & Young LLP	 Mr. Ritesh Baijal, Manager Ms. Vandana Pratap, Senior Consultant Mr. Sarim Khan, Consultant 		

Meeting Agenda:

Stakeholder consultation meeting to understand the value chain of Diamond Studded Gold Jewellery manufacturing, understand the operations and inputs/expectations from the upcoming Gems and Jewellery Park.

Key Discussion Points:

The meeting kick started with a brief background given by Mr. Anand Shah on Asian Star. EY presented questions before Mr. Shah and he gave insights about setting up a Diamond Studded Gold Jewellery manufacturing factory, followed by a facility tour. Post tour, some important points of consideration were discussed with the facility manager for planning of the upcoming Gems and Jewellery Park.

1. About A'Star Jewellery Pvt Ltd:



- a. A'Star Jewellery, the jewellery division of listed company Asian Star Co. Ltd., exclusively caters to the domestic market. The manufacturing operation of A' Star Jewellery spreads across 21,000 sqft area in a five storey building at MIDC, Mumbai. A' Star has two factories in India catering to domestic demand. It is approved manufacturer of Forevermark and ISO 9001: 2015 certified fromTUV NORD Germany, compliant for quality and management systems.
- b. The size of the factory required is calculated as per the business requirement. Based on the selling capacity, they decide production capacity and do the back calculation to come to the size requirement.
- c. Having reputed brands as customers such as Tanishq, Reliance, TBZ, Malabar among many more, A' Star has high requirement and big orders, basis which they employee people.
- d. Inside SEEPZ, Asian Star is only allowed to do exports and there is no duty levied. Outside SEEPZ, in A' Star MIDC factory, both domestic and export markets can be catered, however, there will be duty levied. For exports from MIDC unit, permission from GJEPC is required.
- e. Asian Star, the export arm of the Asian Start Group exports to Dubai, USA, UK, Europe, South America, Russia, Singapore and Australia.
- f. If it would not have been COVID-19, A' Star would have definitely given it a thought for expansion in the proposed Gems and Jewellery park as the whole jeweller community would be present under one roof with a lower cost involved.
- g. A'Star has a production capacity of 70 kgs of Gold jewellery in a month and Asian Star has 50 to 60 kgs.

2. Infrastructure requirement:

- a. Business center
- b. Security
- c. Hotel
- d. Exhibition center
- e. Logistics
- f. Vault
- g. Courier
- h. ETP
- i. HVAC
- j. Load bearing capacity of the safe and heavy machinery
- k. Heavy weight capacity lifts
- l. Budget canteen for Karigars
- m. Commuting
- n. Packaging
- o. Equipment and spares
- p. Parking (space for 20 cars and 100 two-wheelers)

3. Waste disposal:

- a. Casting powder
 - i. Storage and disposal
- b. Refinery dust



i. Storage, refining and selling

4. Space requirement:

- a. Smaller Babu's or Karigars may require 300 to 500 sqft of area.
- b. Ideal size for a small factory should be 3,500 sqft area.
- c. Number of Galas has to be estimated to house similar size units in one building

5. Worker requirement:

- a. Out of the total strength of 500 employees, 350 are blue collar workers. Most of the workers are either from West Bengal or Maharashtra itself
- b. Space requirement for employee and Karigars not required, they come from all across Mumbai Metropolitan Region
- c. Normal day shift of 8 hours
- d. There is a lesser requirement of multi-skilled workers in the factory. Only 5-7% of the Karigars would actually be multi-skilled.
- e. There is a multi-utility room used for training purpose as well where freshers are given some basic training and then the person is put on On The Job training for 6 months to up to 1 year for him to become highly skilled worker.

6. Raw material sourcing:

For unit in SEEPZ, banks provide Gold. For MIDC unit, Gold is bought from MMTC or refineries and duty and taxes are levied on the Gold bought

7. Domestic Market:

Both wholesalers and retailers are customers of A' Star. India still follows one family jeweler system when it comes to jewellery. Corporates have come into the market only in the last 10 years and for them the customer is the young generation.

8. Value Chain margin:

Retailers have high margins of around 30-40%. Wholesalers have margin in single digits i.e. less than 10% for manufacturers.

9. Land preference:

Depends on the infrastructure and security provided in the park.

10. Maintenance:

Society is nominated and it does the maintenance as per the MIDC rules.

11. Manufacturing process:

For domestic market, 18 Carat Gold jewellery is manufactured. For exports, 9, 10, 14 Carat. USA accepts only 14 and 10 Carat; Europe accepts 9 and 18 Carat and UK 10 Carat. Also, for exports, mostly White Gold is preferred.

The manufacturing layout inside the A' Star building is linear. It is vertically placed in the building with each floor housing different functions but in large volumes. Ground floor has admin, HR, IT, accounts and designing. First floor houses polishing and setting. Second floor has filing. Third floor has casting and other departments. The manufacturing process flow is as follow-

- a. Designing Sketching and sizing
- b. CAD and CAM prototyping (using Rhino software)
- c. Waxing
- d. Casting



- e. Filing
- f. Pre-polishing
- g. Setting
- h. Final polishing
- i. Rhodium plating
- j. Final QC

There is a gross loss of approximately 20% of Gold and net loss post refining is around 2% in the complete manufacturing process.

12. Business expansion:

Post COVID-19, if there is a requirement to set up a new factory, then infrastructure, land rate, facility provision and commuting will be the points of consideration. Having the jeweler community in the park is a plus point and it will help reduce per unit(business) costs.

3.3 Meeting with KBS Creations Pvt Ltd

Date of Meeting	:	26 August 2020	
Time	:	16:30hrs to 17:30hrs	
Venue	:	SDF VI, Unit No.167, 1st floor, SEEPZ, Andheri East, Mumbai, Maharashtra	

Meeting Attendees:

Organization	Name & Designation
KBS	Mr. Nilesh JoshiMr. Prasad Khanna
Ernst & Young LLP	 Mr. Ritesh Baijal, Manager Ms. Vandana Pratap, Senior Consultant Mr. Sarim Khan, Consultant

Meeting Agenda:

Stakeholder consultation meeting to understand the value chain of Diamond Studded Gold Jewellery manufacturing, understand the operations and inputs/expectations from the upcoming Gems and Jewellery Park.

Key Discussion Points:

The meeting started with a brief introduction followed by Q/A session. As per the agenda, we gathered information about the KSB manufacturing facility and had a facility tour which would help in planning of the upcoming Gems and Jewellery Park

1. About KBS Creation Pvt Ltd:

a. KBS Creation is the jewellery manufacturing arm of the KBS group. KBS was established in 1975 and has a global presence. They source diamonds from



Antwerp, Belgium, have marketing offices in USA and Hong Kong and produce diamond studded jewellery in Mumbai, India. KBS adheres to the norms laid out by Responsible Jewelry Council (RJC).

- b. KBS has 3 floors in a building with an area of 25,000 sqft and they follow cellular system of jewellery manufacturing (factory in a factory concept). It has an employee strength of 650. Out of 650, only 10% are female employees whowork on waxing process.
- c. The major market for export for KBS is USA (~95%) and then UK (~5%).
- d. KBS has a capacity of producing 1000 pieces/day which sums up to 50 kgs in a month. The time taken to fulfill a bulk order takes about 3-4 weeks, from the day of receiving order to the date of order delivery.
- e. There is an ETP installed for treatment of discharge with capacity of 2000 litre/day.
- f. Power consumption of the factory per month comes around 175 lakh units in usual scenario.
- 2. Common Facility Centre requirement:
 - a. HVAC
 - b. ETP
 - c. Scrubber

3. Manufacturing process:

- a. Designing
- b. Waxing
- c. Casting
- d. Filing
- e. Setting
- f. Polishing
- g. Rhodium
- h. Quality Control
- i. Quality Assurance
- j. CVD (Check for diamond and lab grown diamond mix-up)
- k. Packing
- l. Tagging
- m. Export

There is a gross loss of $\sim 25\%$ Gold during manufacturing ard 80% of it is recovered using the refining process, leaving a net loss of about 2%.

4. Challenges:

- a. Labour issue
 - i. Relocation and commuting will be a challenge for workers
 - ii. Semi-skilled and unskilled workers not hired. Earlier company used to provide training to workers for skill development, but workers used to leave the company. Also, the rejection rate goes up if the worker id unskilled
- b. Common refinery issue



Companies prefer their own refineries as the Gold extracted is their own. If a common source refinery is used, it can lead to dispute between companies fighting over the amount of Gold extracted.

3.4 Meeting with Priority Jewels Pvt Ltd

Date of Meeting	:	5 September 2020
Time	:	11:00hrs to 12:30hrs
Venue	:	Priority Jewels Private Limited, 121, Rd Number 15, Marol MIDC Industry Estate, Andheri East, Mumbai, Maharashtra 400069

Meeting Attendees:

Organization	Name & Designation
Priority Jewels	Mr. Shailesh Sangani, Owner
Ernst & Young LLP	Mr. Ritesh Baijal, ManagerMr. Sarim Khan, Consultant

Meeting Agenda:

Stakeholder consultation meeting to understand the value chain of diamond studded Jewellery manufacturing, understand the operations and inputs/expectations from the upcoming Gems and Jewellery Park.

Key Discussion Points:

The visit started with the factory tour followed by discussion with Mr. Shailesh Sangani. EY received valuable insights about setting up a Diamond studded jewellery manufacturing factory and important points of consideration while planning the Gems and Jewellery Park.

- 1. About Priority Jewels:
 - a. Priority Jewels is a Diamond studded jewellery manufacturing unit based in MIDC Marol, Andheri East, Mumbai. The manufacturing unit occupies plot space of 10,000 sqft and has a building structure of 4 floors. The employee strength of the company is about 400 people with about 350 Karigars. The jewellery manufacturing process has both, handmade and mechanized processes. The production capacity of the factory is 50 kg per month.
 - b. Priority caters to both domestic and international market. They have a distribution model and there is no retail. They cater the USA, Europe and UAE in the international market.
 - c. Priority has a cellular manufacturing layout for jewellery manufacturing. The factory is divided into floors with common processes and facilities like designing and waxing, investment casting and QC, ETP and refinery on separate floors.
- 2. Infrastructure requirement:
 - a. ETP
 - b. Scrubber



- c. Refinery (can be imported or domestic)
- d. Gas banks (space for gas cylinders Nitrogen)
- e. Dormitory or Affordable housing for Karigars
- f. STP
- g. Training and education centre
- h. Schools and hospitals
- i. Commercial centre and auditorium
- j. Logistics
- 3. Challenges:
 - a. Lack of manpower (Karigars):

If there will be no provision for Karigars to stay in or near the proposed jewellery park then it will become difficult for the jewellers to manufacture jewellery. The cost and travel time for Karigars should be minimal.

b. Dying art of handmade jewellery making

In the future, artisans involved in handmade jewellery making will become scarce as it is a dying art. With time, people are shifting towards standardization and mechanized jewellery where the need of a Karigar becomes minimalist. The future generations of Karigars also do not wish to be in the field of handmade jewellery making as they make very less money as compared to other jobs.

4. Manufacturing process:

- a. Priority has a cellular manufacturing layout for jewellery manufacturing, also called, factory in a factory layout. The reason behind adopting the layout is to maintain product differentiation and dedicated client service. There are separate sections which cater to the clients from the northern and southern part of India. Dedicated factory for particular clients is also present.
- b. The manufacturing process is as follows:
 - i. Designing
 - ii. CAD and CAM, 3D printing
 - iii. Waxing
 - iv. Was setting
 - v. Casting
 - vi. Filing
 - vii. Setting
 - viii. Polishing
 - ix. Rhodium plating
 - x. QC
- c. Gross loss of Gold in the manufacturing process is accounted to be 30-40% and the net loss is of ~2%.
- 5. Business Expansion:

Priority will definitely move to Navi Mumbai as whole jewellers community will be present at one place. With the whole ecosystem present, the cost also gets shared and goes down for everyone. Manpower required would also be present



at one place. Everybody is eagerly waiting for an announcement and there is no doubt that there will be any issue in financing and payment part.

6. Suggestions:

- a. All the calculation of land price should be done on carpet area.
- b. The industrial estate and buildings should not be more than 5-6 floors as it becomes risky to carry precious metals and stones up and down in a high-rise building. Also, carrying heavy machinery also becomes a huge challenge in such a setup.
- c. To consume FSI, high rise buildings can be considered for office space and commercial activities.
- d. Height of the floor (ceiling height) should be restricted to 10 feet otherwise people will start making mezzanine floors which can affect the loading and structure of the building.
- e. No AHU and centrally air-conditioned Galas. It is expensive to maintain and not really required for manufacturing units. Its better to have provision for fitting individual ACs.
- f. Proportion of land distribution for plots and Galas should be made accordingly as a lot of people would be going in for plots also.
- g. Dormitory and affordable housing should be planned outside of the jewellery park.

4. Minutes of Meeting - Ancillary services Stakeholders

4.1 Meeting with Khambati Jewellery Tools

Date of Meeting	:	11 September 2020
Time	:	16:30hrs to 17:00hrs
Venue	:	45, Dhanji St, Near Mumbadevi Temple, Pydhonie, Kalbadevi, Mumbai, Maharashtra 400003

Meeting Attendees:

Organization	Name & Designation		
Khambati Jewellery Tools	Mr. Asad KhambatiMr. Fakhri		
Ernst & Young LLP	 Ms. Keshika, Vice President Mr. Ritesh Baijal, Manager Ms. Vandana Pratap, Senior Consultant Mr. Sarim Khan, Consultant 		

About Khambati Jewellery Tools:


Khambati Jewellery Tools are manufacturers and exporters of handmade jewellery making tools, equipment and machinery.

Their product portfolio includes tools and equipment for abrasives, buffing, cleaning and polishing, casting, engraving, faceting tools, files, gem instruments, hammers, mallets and forming, machinery, magnifiers, measuring instruments, melting and soldering, pliers and cutters, tweezers and vices.

Key Discussion Points:

- a. Khambati's shop is on the ground floor of a G+4 building with an area of 2,000 sq.ft. In 2,000 sqft, they have their sales and display office on the outside and in the inside, they have a storage unit.
- b. Their products cater mostly to handmade jewellery manufacturing units.
- c. They provide repair and maintenance service to the customers who purchase their manufactured equipment.
- d. Currently, they don't see a requirement to shift to the new proposed jewellery park in Navi Mumbai. They will decide to open up a new shop only if everybody shifts from Zaveri Bazar.

4.2 Meeting with Die-Cutting unit

Date of Meeting	:	11 September 2020
Time	:	18:45hrs to 19:00hrs
Venue	:	45, 37/40, Sheikh Memon St, Mumbadevi Area, Bhuleshwar, Mumbai, Maharashtra 400002

Meeting Attendees:

Organization	Name & Designation
Die-cutting	Store Manager
Ernst & Young LLP	Mr. Ritesh Baijal, ManagerMr. Sarim Khan, Consultant

About Die-Cutting unit:

The die-cutting unit is a unit where there are different types of designs and each design is given a particular number for reference. Karigars go to these die-cutting units with their jewellery design to match it with the die design and order number of pieces required. The die cutter receives the design code and the gold from the Karigar and gives back the die cut (designed) gold piece along with balance gold.



The die-cutting unit was divided into two parts, first being the sales office and second, their die-cutting unit with the machinery. The whole unit occupied area of 300 sq. ft, divided into two floors. The sales office was on the third floor with 150 sq. ft and the manufacturing unit was on the second floor occupying the rest 150 sq. ft.

Annexure 3: Jewellery Park sanction letter

46:40 2012 18:14 FAX 20063407

EP(G&J)

2001

F.No.12/43/2011-EP(G&J) Government of India Ministry of Commerce & Industry Department of Commerce EP(G&J) Division

New Delhi, 12th October, 2012.

To Sliri Sabyasachi Ray, Executive Director, Gett & Jawellery Export Promotion Council, Mumbai.

Subject:

Proposals under 12th Five Year Plan.

Sir.

I am directed to say that the Planning Commission has conveyed the following Gross Budgetary support for new schemes of Gem & Jewellery sector for the 12th Five Year Plan:

S.No.	Name of the Scheme	Final proposed ontlay
L	Convention Centre in Muinbai	Rs 200 Croze
2,	Common Facility Centre	Rs 50 Crore
3.	Gem Bourse in Jaipur	Rs. 45 Crore
4.	Gems & Jewellery Park in Mumbai	Rs 50 Crore
53	Technology upgradation in Gents & Jewellery Sector	Rs. 50 Crore

2. It is requested to furnish a Detailed Project Report (DPR) in respect of above five proposals at the earliest. The DPR should not include cost of land and the construction should be as per CPWD norms. Further, it may also be ensured that the projects are completed during the 12th Five Year Plan so that the funds do not lapse. Fund requirement for each scheme per annum may also be communicated.

Yours faithfully,

(Bhaskar Kalra) Section Officer

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Annexure 4: MoU Between GJEPC and Government of Maharashtra

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			Governmen Maharasht	tef ni		
					Date	19/02/2018
		MEMOR	RANDUM OF U	INDER	STANDING	
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Converg	sence 2018	. The MoU is	s made to facili	tate TH	IE GEM AND J	EWELLERY EXPOR
PROMO	TION COUN	ICII. proposed	d investment in	Mahara	shtra in a time	bound manner an
has bee	n entered b	etween;				
THE CE	M AND JEW	ELLERY EXPO	ORT PROMOTION	COUN	CIL, a Company	incorporated unde
Block, B	ipanies Act, barat Diamo	1956 (or 201 and Bourse, Op	3), having its Cor op. Nabard, Bandr	porate a-Kuria	Office at Towe Complex, Band	No. AW 1010, G- ra - East, Mumbai -
100001			and			
		The	e Government of	Mahar	ashtra	
Details o	of proposed	investments	-			
			-			
Sr. No.	Nome	Location	Proposed Inv. (INR Cr.)	in	Direct Employment	Proposed Year of Commencement
	India		Anosides.			
1	Jewellery	Near Mumbai	13800			
	Park					
PROMO	TION COUL	of Maharash NETL to obt	tra will facilitat	c THE	GEM AND J	WELLERY EXPOR
/dearan	ces/ fiscal in	ncentives etc.	from the conce	med du	partments of 1	the State, as per the
consting	policies / ru	les and result	ations of the Gov		t of Maharash	ira.



Feasibility Report - Gems and Jewellery Park in Mahape, Navi Mumbai

For and on behalf of	For and on behalf of
Government of Maharashtra	
Sanjay Seller	- Rendlyfrance
(AUTHORISED SIGNATORY)	(AUTHORISED SHENATORY)
Name:	Name: Pramod Agarwal
Designation:	Designation:
Contact no.:	Contact no.: 9829060343
E mail:	E mail:
Contact address:	Contact address: Tower No. AW 1010, G-Block, Bharat Diamond Bourse, Opp. Nabard, Bandra-Kurla Complex, Bandra - East. Mumbai - 400051
Department:	



Annexure 5: Land Application to MIDC



Pramod Kumar Agarwal

Chairman Ref.No.: GJEPC/Jew.Park_MIDC/2018-19

10th September, 2018

Io, Shri. Sanjay Sethi, CEO- MIDC "Udyog Sarathi", Marol Indl. Area, Mahakali Caves Road, Andheri (East), Mumbai – 400032

Sub: - MIDC land allotment for 30-Acre plot for project Jewellery park of India as per MOU signed on 14 Feb 2018 at Magnetic Maharashtra event 2018.

Dear Sir,

The Gern & Jewellery Export Promotion Council (GJEPC) was set up by the Ministry of Commerce, Government of India (GoI) in 1966. It was one of several Export Promotion Councils (EPCs) launched by the Indian Government, to boost the country's export thrust, when India's post-Independence economy began making forays in the international markets. Since 1998, the GJEPC has been granted autonomcus status. The GJEPC is the apex body of the gerns & jewellery industry and today it represents almost 6,700 members in the sector. With headquarters in Mumbai, the GJEPC has Regional Offices in New Delhi, Kolkata, Chennai, Surat and Jaipur, all of which are major centres for the industry. It thus has a wide reach and is able to have a closer interaction with members to serve them in a direct and more meaningful manner. Over the past decades, the GJEPC has emerged as one of the most active EPCs, and has continuously strived to both expand its reach and depth in its promotional activities as well as widen and increase services to its members. In an endeavour for promoting the growth of the exports & to bring in scattered Gerns and Jewellery sector under one premises, GJEPC intends to build a Gerns & Jewellery Industrial Park as per Maharashtra government's Gerns and Jewellery PSI, dated 14 Feb 2018.

The exports stood at US\$ 30.67 billion between April 2017-February 2018. Exports of gold coins and medallions stood at US\$ 1,899.82 million and silver jewellery export stood at US\$ 3,332.95 million during April 2017-February 2018. It is bought to your kind notice that Maharashtra state contributes to 69 % of total Jewellery export from India. UAE, US, Russia, Singapore, Hong Kong, Latin America and China are the biggest importers of Indian jewellery. It is envisaged that this project will also attract Foreign Direct Investment (FDI) from important manufacturing destinations like Turkey, Italy etc. The gems and jewellery sector in India accounts for more than 5 million jobs directly, the majority of whom comes from less privileged sections of the society being small players. The Indian market size is about US\$ 80 billion as of 2017 and is expected to reach US\$ 100-110 billion by 2021-2022. It contributes 29 per cent to the global jewellery consumption. This initiative will boost the jobs in the Gems and Jewellery sector contributing to Socio-Economic development of the Maharashtra state.

The state of the art India Jewellery Park Mumbai will see an investment of Rupees 13,800 Crores (Capex & Opex cost) and will have direct and indirect employment generation of more than 2,95,000 people; this fulfils the conditions as per policy of investment of Rs. 1,500 Crores and direct employment generation of more than 3,000 People. This will lead to sectorial growth and

रत्त तथा आभूषण तिर्यात संवर्धत परिषद | The Gem & Jewellery Export Promotion Council

मुख्य कार्यानयः ए अव्यु-1010, पहली मंग्रिस, टायर ए, भारा डाटमंड कोर्स भी व्हर्सेक, बांट्रा-कुल कॉम्प्टेक्स, वांट्रा (पू.), मुंवई -600 051. (भारत) Head Office: AW-1080, 1º Flore, Tower A, Bharat Diamond Boarse: G Elock, Bandra-Kurla Complex, Bandra (E.), Mumbai-400 051. (India) CIN: U09100MH1666GAR913486 Tel: 0091-22-2654 -60C / 4226 3600 Fax: 0091-22-2652 4764 E-mail 1: 0095jeechidla.com/ WebSite : www.gjepc.org





Pramod Kumar Agarwal Chairman

will lead way many start-ups in the state in Gems and Jewellery sector. This will be one of the unique Gems and Jewellery Park in the entire Country and first in the world setting a record and will be complementing the largest diamond trading hub, Bharat Diamond Bourse set up by this industry at BKC, Mumbai.

Please find attached with this letter the copy of the MOU Signed at Magnetic Maharashtra Conclave 2018, Company profile of GJEPC & India Jewellery Park, Mumbai (a special purpose vehicle created for this very purpose) along with application for 30 acres of land at Navi Mumbai. Kindly allot us the land at the earliest for performing the foundation stone laying ceremony by next month through the very hands of Hon'ble Chief Minister of Maharashtra, Shri Devendra Fadnavis and Hon'ble Minister of Commerce, Industry and Civil Aviation Shri Suresh Prabhu.

We hope the needful will be done at the earliest from your end to give shape to this august project which will usher a new era of jewellery manufacturing in the entire country.

Thanking you,

Yours sincerely, Earl Aleas

PRAMOD KUMAR AGARWAL CHAIRMAN

c.c: Shri. Satish Gawai, Additional Secretary, Industries, Govt. of Maharashtra Shri. Satish Bagal, Dy. Collector, RO, MIDC, Mahape

रत्व तथा आभूषण तिर्यात संवर्धत परिषद | The Gem & Jewellery Export Promotion Council

gea analna: ए seeq-1010, पहली अंग्रिश, टायर ए, आगर डाउमंड वोर्घ, जी क्लोंक, बॉवर-कुलो वॉम्प्लेका, बॉवर (पू.), मुंबई-400.051. (आज.) Heat Office : AW-1010, 14 Floor, Tower A, Bharat Diamond Bourse, G Block, Bandra-Kurla Complex, Bandra (E3, Mumbai-400.051. (India) CIN : U99100MH1966GA1013486 Tel:-0091-22-2654.4600 / 4226.3600 Fax: 0091-22-2652.4754 E-mail: ho@glepcindia.com | Website : www.glepc.org



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 Yerwada

 (Near Don Bosco School)

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 Fax:+ 91 20 6601 5900

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