

**“In-situ Slum Rehabilitation Scheme”
at
Indra Kalyan vihar, Okhla Ind. Area, Ph-I,site –II
Indra Kalyan vihar in back lane of plot no. B-230 to B-235 Okhla Ind. Area, Ph-I**

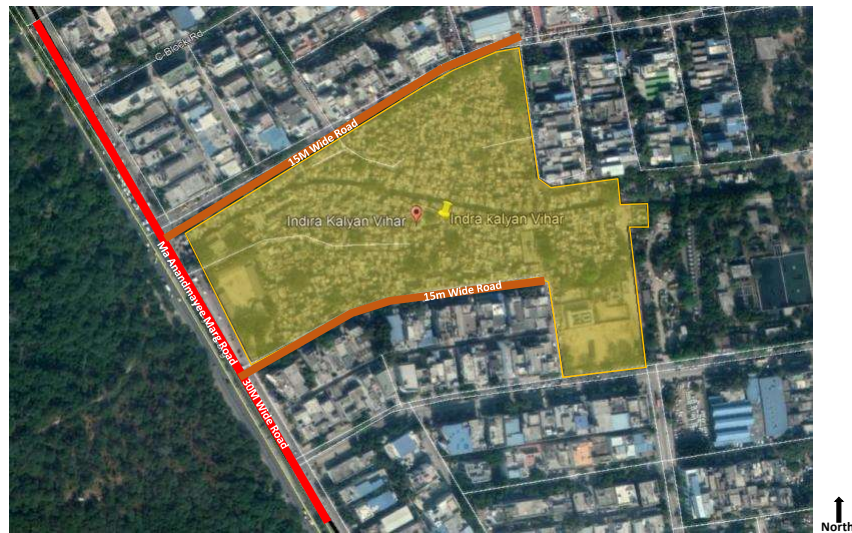
PROJECT AUTHORITY:
Delhi Development Authority

[PUBLIC-PRIVATE PARTNERSHIP PROJECT]
WITH EWS HOUSING (DOCUMENT)



PROJECT BRIEF

The In-situ Slum Rehabilitation Scheme aims to benefit the slum dwellers originated on the land at Indra Kalyan vihar, Okhla Ind. Area, Ph-I,site –II & Indra Kalyan vihar in back lane of plot no. B-230 to B-235 Okhla Ind. Area, Ph-I by protecting their livelihoods and giving the slums a facelift with multi-storey apartments having all the basic amenities.



In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

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In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

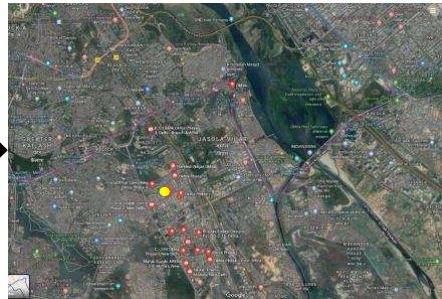
PROJECT OUTLINE

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

SITE & ITS SURROUNDINGS



District Map Delhi



Location of Okhla Phase-1 in Delhi



Location of site in Okhla Phase-1



Site Entrance



Existing Residential Area



Existing Industrial Area



Approached road



Site location



In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

Right of way available are as shown on Layout Plan below

West : 45 M
North : 24 M
South : 12 M



In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

SITE & ITS SURROUNDINGS

- The site is located in the South-East Delhi. It is located in Okhla Industrial Estate, which has hundreds of big and small companies and is one of the prime industrial areas of the city. It homes almost about 19094 people *assuming 4.5 people per DU (4243 nos.)
- It is Okhla Industrial Area near Hotel Crown Plaza. The site is bounded by Maa Anandmayi Marg from west (ROW 45M), NVR C Block road in South (ROW 12 M) and 24 M road in North
- The Landmarks present near the site area:**
 - Sdmc Primary School Indra Kalyan Vihar
 - Okhla industrial Area police station
 - NBCC Centre
 - Crowne Plaza Hotel
 - Tughlaqabad Biodiversity Park
 - Indraprastha Apollo Hospital
- Linkage with Transportation Network:** The site is well connected because of the presence of various Metro Stations in close vicinity of 2.9 km from Sarita Vihar Metro Station, about 3.6KM from Jasola Apollo Metro station and 3.5km from Harkesh nagar metro station, about 4.4km from Tuqlaqabad railway station, 2km from NH19, 23km from the IGI Airport, 16.5 km from New Delhi Railway station.and Bus Stops Indira Kalyan Vihar Bus Stop at the walkable distance.

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

DETAILED DESCRIPTION OF AREA SURVEYED IS AS UNDER:

S. No	Description	Area in Sqm
1	Area as per RFP Document	
a	Indira Kalyan Vihar Phase 1 (A)	49500
b	Indira Kalyan Vihar Phase 1 (B)	34200
c	Indira Kalyan Vihar in Back lane of plot no B-230 TO B-235, PHASE-1	2894
		86594
2	Area as per Physical Survey	
a	Indira Kalyan Vihar Phase 1	65605.45
b	Indira Kalyan Vihar in Back lane of plot no B-230 TO B-235, PHASE-1	4831.188
		70436.638
	Less: Area under Road as explained herein after	4514.188
	Less: Area of Industrial Plot	317.00
	Net Area for Design and Development	65605.45
	in Acres	16.2114855

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

EXISTING INFRASTRUCTURE

Sewerage System



Open Drains running along backside of colony

Water Supply



In the northern half of IKV, households access water through a network of privately installed, illegal pipelines that tap the formal water supply

Physical infrastructure such as streets & roads, dhalao, electricity, etc are present but there are some haphazard environmental conditions on the site.

Power Supply



Entangled wires from the electric poles.

Garbage Disposal System



Garbage dumped outside dhalao

Social infrastructure in terms of convenience shopping, market, ration shop, high school, dispensary, private clinics, open ground, temple, mosque, PCO, are present on site.

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

OPEN SPACES

Vacant land around the jhuggies along with the central open courtyard for the open space network.



Open Space used for recreation



Open Space used as dumpyard



There are total 95(approx.) trees are scattered on the site. DDA office complex mainly has trees of Neem, Jamun, Shuhtoot, etc. and other trees such as Shisham, Peepal, Pilkhan, Babool, etc are also predominant on the site.

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

DEVELOPMENT NORMS**A) Slum & JJ Cluster Regulations & Guidelines as per MPD-2021**

a)	Minimum Plot Size	2000 sq.m. plot facing a min. 9m wide road	
b)	Ground Coverage	No restriction except setbacks	
		Residential Component (For rehabilitation squatters)	Remunerative Component Use
		of	
c)	F.A.R.	400	300
d)	Maximum Dwelling Units	900 DUs/ Ha	200 DUs/Ha
e)	Area	Min. 60%	Max. 40%
f)	Parking	0.5 ECS per 100 sq.m of floor area	Residential- 2 ECS per 100 sq.m of floor area
		*can be relaxed wherever required	Commercial- 3 ECS per 100 sq.m of floor area
g)	Other Controls	Scheme/ design should be compatible for differently-able persons	

B) Resettlement/EWS Houses

a)	Number of Houses	1019 (as per Survey by DUSIB 2015)
b)	Area of each Dwelling Unit	Min. 25 sq.m & Max. 40 sq.m
c)	Each Dwelling Unit will adhere to the following norms:	Room sizes as per IS:8888
	One room	Minimum area 6.5 sq.m.
	One Multipurpose room	Minimum area 9.0 sq.m.
	One Kitchen	Minimum area 3.3 sq. m.
	One bath	Minimum area 1.2 sq. in
	One W.C.	Minimum area 0.9 sq. m.
	Clear effective width of staircase	1500 mm min.
	Riser	175 mm max.
	Tread	250 mm min.

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

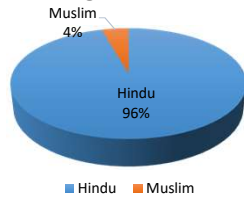
Socio-Economic & Household Survey

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

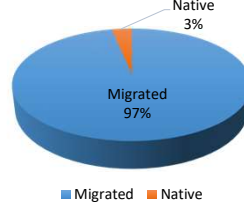
SOCIO-ECONOMIC & HOUSEHOLD SURVEY

A site survey was carried out which revealed certain facts and figures about the site.

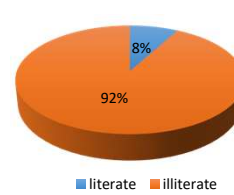
Religious structure



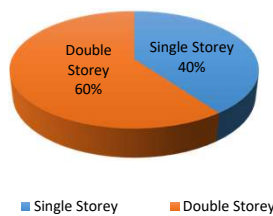
Migration status



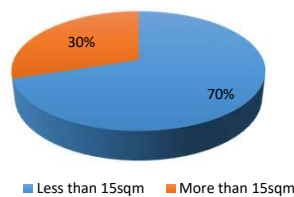
Education Status



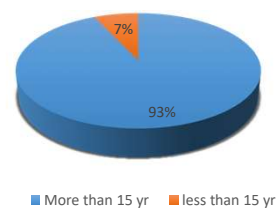
Height of Structure



Plot Size



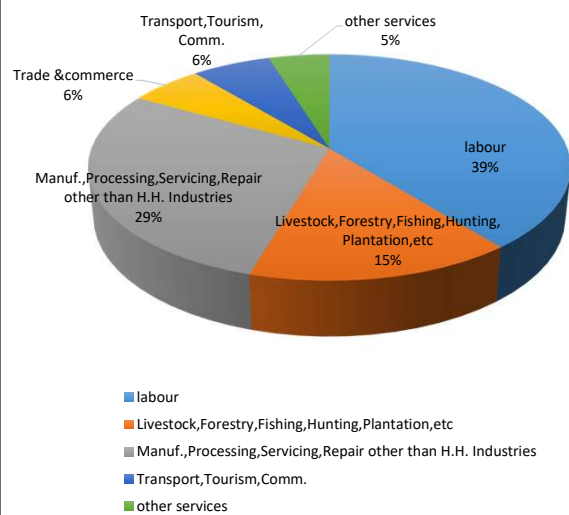
Period of Stay



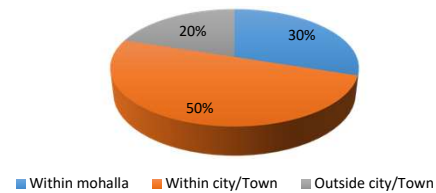
In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

SOCIO-ECONOMIC & HOUSEHOLD SURVEY

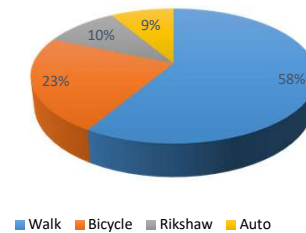
Type of Occupation



Distance to Workspace



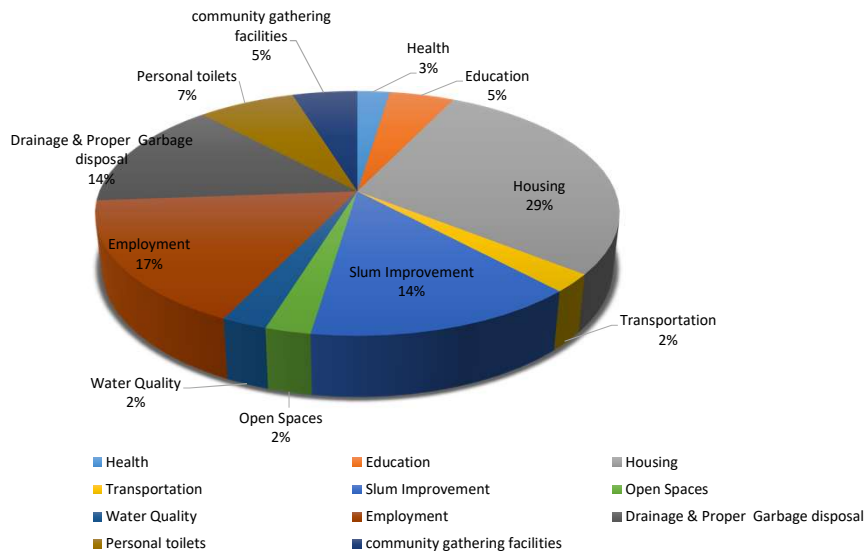
Mode of Travel



In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

SOCIO-ECONOMIC & HOUSEHOLD SURVEY

Priority level Study

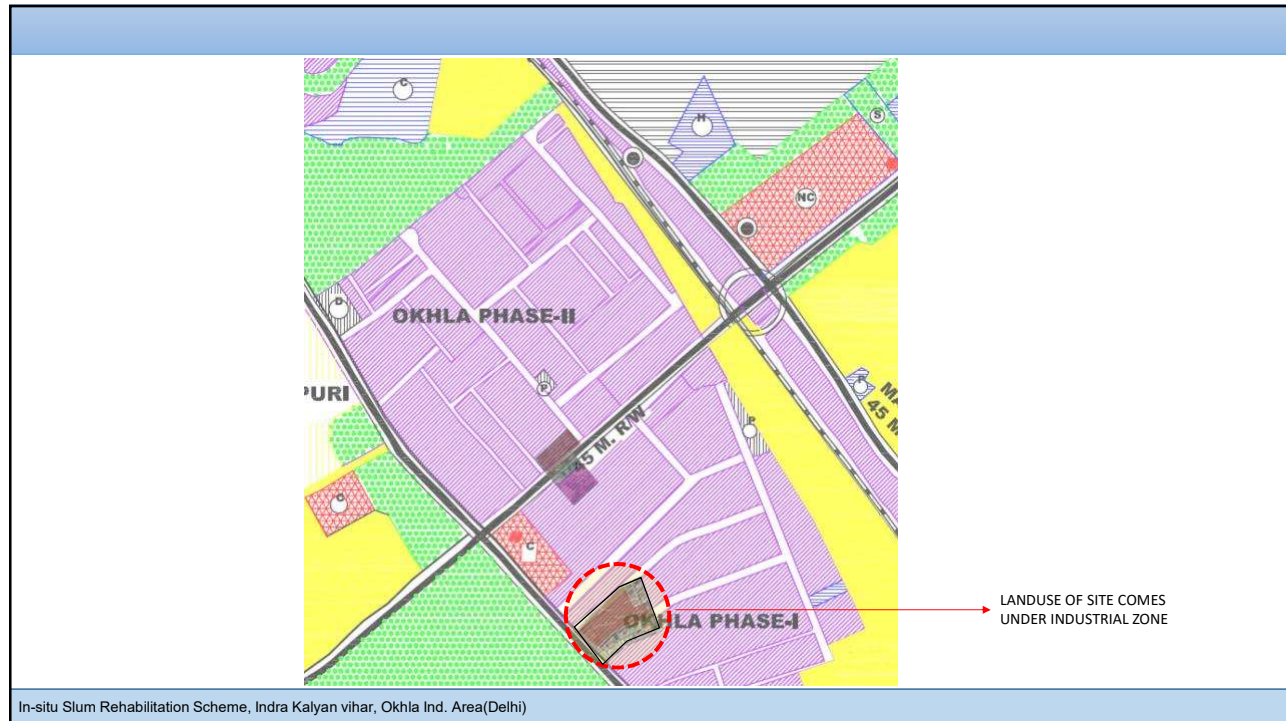
**Priority level study revealed that:**

Slum dwellers want the housing to be taken up on priority basis for better living conditions. Second on priority list is employment, slum improvement & proper drainage and garbage disposal has been major concern for the slum dwellers to sustain in rising prices of all livelihoods.

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Land Use

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)



Design Analysis & Approach

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

PROJECT COMPONENTS

Desired RFP's for In-Situ slum rehabilitation projects of JJ clusters.

Table 3.1: PRESENT SCENARIO

Total Site Area	No. of HH's	Existing population	Density
6.56 Ha	4243 on 7.04 Ha	19,094	603 DUs/ha

Total Site Area	Remunerative Component	Residential Component (Rehabilitation on Squatters)
100%	28%	72 %
6.56 Ha	1.837 Ha	4.723 Ha

Table 3.3: PROPOSED SCENARIO- Residential Component (Rehabilitation of Squatters)

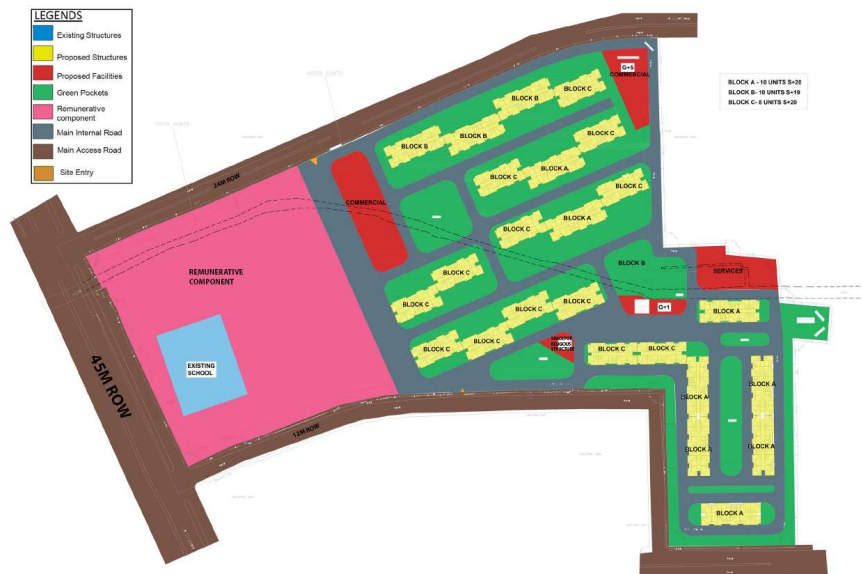
Total Site Area for Residential Component (Rehabilitation of Squatters)	No. of HH's	Proposed population	Density
4.723 Ha	4250	19125	900 DUs/ha

Table 3.4: Area Break-up As Per Survey Drg

S.No.	Use Premises	Unit Area (in ha)
1.	SLUM AREA	7.04
2.	TOTAL NUMBER OF DWELLING UNITS (AS PER DUSIB)	4243 DUs
3.	TOTAL DESIGN POPULATION (@4.5 per HH)	19,094
4.	MAXIMUM DENSITY PERMISSIBLE FOR REHABILITATION AREA	900 DUs/ha
5.	FAR PERMISSIBLE FOR RESIDENTIAL COMPONENT (REHABILITATION OF SQUATTERS)	400
6.	DENSITY PERMISSIBLE FOR REMUNERATIVE	Residential- 200 DUs/ Ha
7.	FAR PERMISSIBLE FOR REMUNERATIVE	200
NOTE: -	STANDARDS BEING FOLLOWED ARE OF REDUCED NORMS FOR IN-SITU REHABILITATION PROJECTS (refer Table 4.2.2.2 B OF MPD 2021)	

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

SITE PLAN



Rehabilitation Component (Rehabilitation of Squatters)
(72%~ 4.723Ha)

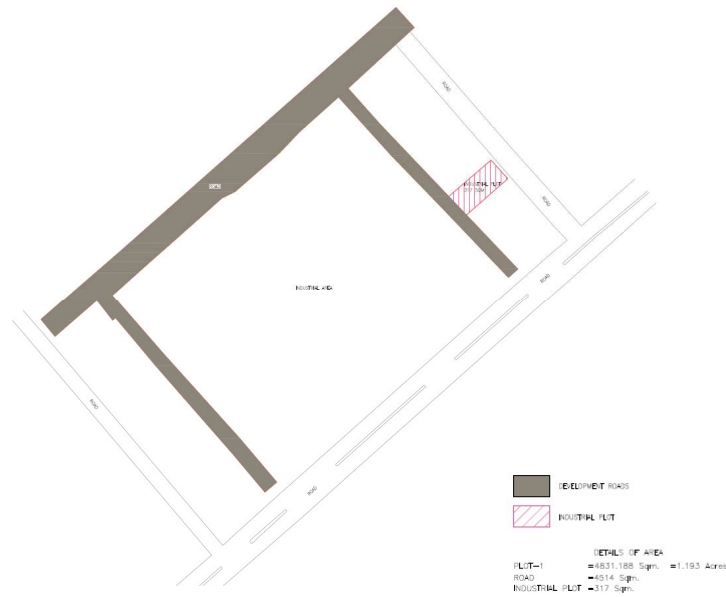
Option: Residential Group Housing Use
(28%~ 1.837Ha)

Project: Proposed In-situ Slum Rehabilitation Scheme at Indra Kalyan Vihar, Okhla Ph-2



In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

SITE PLAN



In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

UNIT PLAN & BROAD SPECIFICATION

The broad specifications for these facilities besides those required as per structural design will be as under:

Suggestive Architectural finishes for Residential Flats (Rehabilitation of Squatters)		
No	Description	Specification
1.	Door Frame	Galvanized Plain Steel sheet 1.25 mm thick, Lock Forming Quality (LFQ), Zinc coating 120 grams per square meter inclusive of both sides, conforming to IS. 277 latest versions with powder coating.
2.	Door Shutter	Door shutter will be 35 mm thick of Pre-painted galvanized steel sheet with PU foam in fill. except for toilets and WC where it will be of PVC shutter 30 mm thick
3.	Kitchen Counter	600mm wide & 800mm high from flooring black jet Granite 18 mm thick, working platform with stainless steel sink over RCC slab and vertical supports; all exposed edges shall have granite facia with necessary moulding.
4.	Flooring	i) All room cabin & other spaces to be vitrified mirror finish 600 x600 mm, size laid with adhesive ii) Entrance and passage and lobby –pattern flooring in granite with Udaipur green marble strips. (80% granite + 20% Udaipur green) iii) W.C.-coloured ceramic tiles 300x300 mm or 200x200mm (Anti-skid) laid with adhesive. iv) Bathroom & Balcony - coloured ceramic tiles 300x300mm (Anti-skid) laid with adhesive. v) pump and machine room –VDC 40mm thick
5.	Skirting	The specifications for material of skirting will be same as flooring. The height of skirting will be 100 mm.



In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

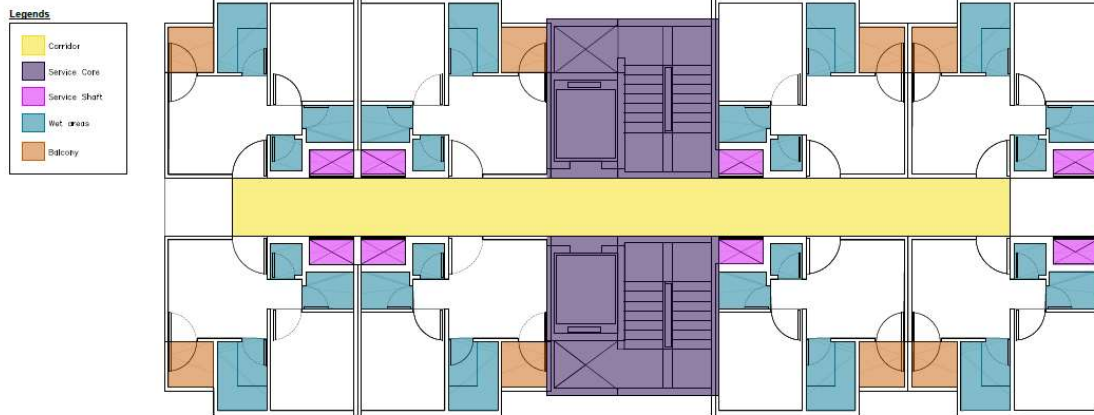
UNIT PLAN & BROAD SPECIFICATION

6.	Dado	i) Kitchen counters - 600mm over kitchen platform with ceramic tiles - 200x300mm with adhesive excluding 75mm granite moulding pattl. All edges should be chamfered and polished to the matching shade. ii) Bathroom-coloured ceramic tiles - 200x300mm up to ceiling with adhesive. iii) W.C. coloured ceramic tiles 200x300mm up to ceiling with adhesive. iv) Lift- Marble stone cladding up to ceiling height in entrance, lobby and lift core as per pattern.
7.	Tread & riser	Same as flooring in entrance, passage and lobby
8.	Railing	1200 mm height 40mm dia. 304 grade Stainless Steel Railing as approved by Architect/CE
9.	Window	UPVC sliding windows with grills, where window is not opening into the balcony. Box type window sills, soffits and jambs shall be provided for full wall width in green marble/Udaipur Green.
10.	Ventilator	UPVC ventilator in W.C. & Bath - fixed and top hung with provision for exhaust fan. Box type window sills, soffits and jambs shall be provided for full wall width in green marble/Udaipur Green.
11.	Plastering (where ever required)	i) Internal-Gypsum plaster with chicken mesh at the junction of dissimilar materials. ii) External- 12 mm cement plaster 1:2 (1 cement:2 stone dust)
12.	External walls Finish	i) External surface shall be made smooth with coarse putty before painting/textured work ii) Textured Finish
13.	Internal walls & ceiling Finish	i) Walls treated with white cement based Polymer Modified Coarse Putty. ii) For ACC Block partition Light weight gypsum plaster
14.	Painting	i) Ceiling - Two or more coat of Acrylic distemper. ii) Internal - Two or more coat of acrylic distemper
15.	Basement Internal walls & ceiling	Cement Paint

16.	Terrace	i) Terrace-Water proofing with white glazed tiles over 120 mm avg. Thick B.B. coba.
14.	Balcony	Texture Finish
B Guide Lines for External Development		
1	Kerb stone	High grade concrete precast block Grade M-25 of size as approved by Engineer-in-charge.
2	Inter-locking pavers	Heavy duty pavers, shape & pattern in cement colour (red, green, grey, yellow etc.) Grade M-35, 80mm thick.
3	Road	Internal road to be VDC High grade concrete
4	Road painting	75mm wide thermo plastic paint for indicating parking spaces.
5	Pedestrian foot path	Heavy duty pavers, shape and pattern in cement colour (Red, Green, Grey, Yellow etc.) Grade M-35
6	Signage & graphics	Flat Number Plate - In Stainless steel 306 having graphics & text in screen print. Building name Plate - In channel letters, CRCA sheet support structure having aluminum panels, powder coated with graphic and text for way finding, directional and statutory signage's, all as per NBC 2016.

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

CLUSTER PLAN



In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

AREA CALCULATIONS

Table: Area Breakup as per final layout plan

Residential Built up area	No. of Blocks	Stilt+ No. Of Floor	Max. DU/floor	Total DUs	Ground Coverage(sq.m)	Total Built-up Area(sq.m)
Block A	8	s+20	10	1600	3442.72	64798.56
Block B	3	s+19	10	570	1291.02	23085.96
Block C	13	s+20	8	2080	4612.79	86190
Total			28	4250	9346.53	174074.52
Commercial Built-up area	No. of Blocks	No. Of Floors			Ground Coverage(sq.m)	Total Built-up Area(sq.m)
Block 1	1	G+5			823	4938
Block 2	1	G+6			1564	10948
Total Ground Coverage(Remunorative Area)(Residential + Commercial)						Achieved
Total Ground Coverage(Rehabilitation Area)(Residential + Composite)						25717.3364
Total Residential + Commercial Area(In Rehabilitation Component)						10046.53
Total Community facilities+ Existing Area						193711.55
Total Rehabilitation Area(Plot Area)						5100
Total FAR Achieved(In Rehabilitation Component)						47235.924
Maximum Height						152861.55
						60.9

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

Feasibility Assessment

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

MARKET ANALYSIS

(The free sale area (remunerative component) will be available proportionally as developer constructs the residential rehabilitation component)

SELLING RATE

SOURCE	RESIDENTIAL		COMMERCIAL	
	Built up Area			
	90SQM (2BHK)		150SQM (3BHK)	
CIRCLE RATE (Source: doris.delhigovt.nic.in/)	Rs.87,840 per sqm		Rs.87,840 per sqm	Rs.254,520 per sqm
MARKET RATE (Source: Sample Survey from Property Dealers of neighborhood)	Rs.1,50,000 per sqm		Rs.1,50,000 per sqm	Rs.2,00,000 per sqm

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

REHABILITATION COMPONENT- RESIDENTIAL

Land use	B/UP Area (SQM.)		Cost of construction		Sellable price
			Rate in Sqm in Rs	Amount	Rate in Sqm
					Amount
Residential Component	28.84 sqm Built Up Area/DU				
Residential		173,778.00	17,000.00	2,954,226,000.00	Not Applicable
Commercial	18,875.00		25,000.00	471,875,000.00	3,775,000,000.00
Home Based Economic Activities	18,875.00		17,000.00	320,875,000.00	150,000.00
Stilted Area for Parking	9,493.00		15,000.00	142,395,000.00	N/A for residential use
Parking for Commercial Neighbourhood	95.00	2,375.00	800.00	1,900,000.00	
Facilities NH9, like School, basti Vikas Kendra, Community Hall	3,100.00		17,000.00	52,700,000.00	N/A for residential use
Religious Site etc					
GROSS TOTAL				3,943,971,000.00	6,606,250,000.00
Add: 15% FOR INFRASTRUCTURE				591,595,650.00	
Add: DEVELOPMENT OF SITE (@ Rs. 1000 per sqm)	47,236.00		1,000.00	47,236,000.00	
Add: TRANSIT COST(@ Rs. 6000 per DU per month for 5 years)	4,243.00		6,000.00	60.00	1,527,480,000.00
Add: TREE FELLING/TRANSPLANT	30.00		32,000.00		960,000.00
(Compensatory tree: Ten times the no. of trees felling/transplant)					
Add: 2% STATUTORY APPROVALS				78,879,420.00	
Add: 2% FOR CONSULTANT/ INDEPENDENT ENGINEER/ SITE SUPERVISER				78,879,420.00	
Add: Taking avg. 14% FOR INTEREST ON CAPITAL COST FOR 3 YEARS				1,656,467,820.00	
NET TOTAL				7,925,469,310.00	6,606,250,000.00
Amount to be recovered from Remunerative Component					(A)
					(1,319,219,310.00)

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

REMUNERATIVE COMPONENT- RESIDENTIAL**Remunerative component land use detail**

Land use	Total Land	Land in Remuneration	MPD Proposal	FAR Area
	in Ha	in Ha		in Sqm
Remunerative				
Component @28%	6.56	1.837	The minimum residential component of the land area for rehabilitation of squatters has to be 60% and maximum area for remunerative use has to be 40% (FAR as 200%)	36736

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

REMUNERATIVE COMPONENT- RESIDENTIAL Remunerative component land use detail

Land use	B/UP Area (SQM.)	Rate in Sqm	Amount	Rate in Sqm	Sellable price
		in Rs			Amount
Residential Component	Total Builtup Area in mixed units of 2 BHK + 3 BHK				
Residential	36,368.64	25,000.00	909,216,000.00	150,000.00	5,455,296,000.00
Commercial	3,673.60	25,000.00	91,840,000.00	200,000.00	734,720,000.00
Stilt + Basement Parking (ECS)	771.00	32,144.00	15,050.00	483,767,200.00	-
GROSS TOTAL			1,484,823,200.00		6,190,016,000.00
Add: 15% FOR INFRASTRUCTURE			222,723,480.00		
Add: DEVELOPMENT OF SITE (@ Rs. 1200 per sqm)	18,368.00	1,200.00	22,041,600.00		
Add: 5% For Advertisement/Marketing			74,241,160.00		
Add: 2% STATUTORY APPROVALS			29,696,464.00		
Add: 2% FOR CONSULTANT/INDEPENDENT ENGINEER/SITE SUPERVISER			29,696,464.00		
Add: Taking avg. 14% FOR INTEREST ON CAPITAL COST FOR 3 YEARS			623,625,744.00		
Add: Cost of Vacant Land as per Circle Rate	5000	127,680.00	638,400,000.00		
NET TOTAL			3,125,248,112.00		6,190,016,000.00
Profit after Free sale Component (in Rs)				(B)	3,064,767,888.00
Net Profit (A+B)					1,745,548,578.00

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

SUMMARY

Rehabilitation Component

Model Type	Density Permissible	Density Achieved	Existing Dwelling Units	Proposed Dwelling Units	F.A.R Permissible	F.A.R Achieved	Max. Ht	Built up Area (In Sqm)		
								Residential	Commercial	Home Based Economic Activities
72%	900 DUs/Ha	900 DUs/Ha	4243	4250	400	370	60.90m (approx.)	173778	18875	18875

Remuneration Component

Model Type	Density Permissible	F.A.R Permissible	Built up Area (In Sqm)	
			Residential	Commercial
28%	200 DUs/Ha	200	36368.64	3673.6

In-situ Slum Rehabilitation Scheme, Indra Kalyan vihar, Okhla Ind. Area(Delhi)

SUMMARY

Financial Viability:

Model	Rehabilitation Component (Rehabilitation of Squatters) (72%- 4.723Ha)					Option: Residential Group Housing Use (28%- 1.837Ha)				
	Density	DUs	Construction Cost	Sellable Cost (From 10% Commercial + 10% Home Based Economic Activities)	Amount to be Recovered	FAR	Density	Construction Cost	Sellable Cost	Profit
72%-28%	900 DUs/Ha	4250	792 CR	660 CR	(-) 132CR	200	200 DUs/Ha	313 CR	619 CR	(+) 306 CR
Net Profit		(+) 174 CR								

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THANK YOU!

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