

**“In-situ Slum Rehabilitation Scheme”  
at  
District Centre, Dilshad Garden(Delhi)**

**PROJECT AUTHORITY:  
Delhi Development Authority**

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

 SURESH GOEL & ASSOCIATES  
ARCHITECTS PLANNERS ENGINEERS

**PROJECT BRIEF**

The **In-situ Slum Rehabilitation Scheme** aims to benefit the slum dwellers originated on the land at District Centre, Dilshad Garden(Delhi) by protecting their livelihoods and giving the slums a facelift with multi-storey apartments having all the basic amenities.



**In-situ Slum Rehabilitation Scheme, Dilshad Garden(Delhi)**

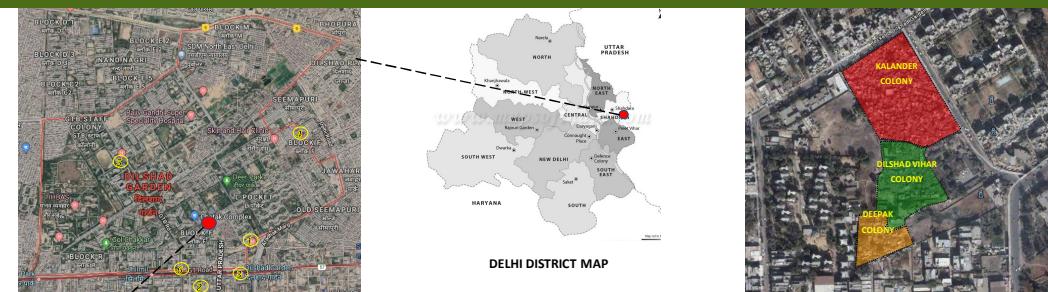
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# Project Outline

In-situ Slum Rehabilitation Scheme, Dilshad Garden(Delhi)

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**SITE & ITS SURROUNDINGS**



**DELHI DISTRICT MAP**

**PROJECT SITE**

**SITE AREA = 6.57 ha (16.234 acre)**  
**Existing Households = 3914 (Source: DUSIB Survey 2015)**



**Plotted developments on the west**

**Factory & Plotted developments on the south**

**Industrial Buildings on the south**

**Dilshad Garden Metro Station on the south**

**Industrial Area on the southern edge**

**Plotted developments on the northern edge**

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### EXISTING INFRASTRUCTURE

<p><b>Sewerage system</b></p>  <p>Open Drains running along the internal streets within the colonies.</p>	<p><b>Power supply</b></p>  <p>Entangled wires from the electric poles.</p>
<p><b>Water supply</b></p>  <p>Hand Pump and water tankers from Delhi Jal Board for Water Supply.</p>	<p><b>Garbage Disposal system</b></p>  <p>Garbage dumped outside Dhalao</p>

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### OPEN SPACES

<p>Vacant land around the jhuggies along with the central open courtyard of the existing DDA office form the <b>open space network</b>.</p>  <p>Open Space used for recreation</p>  <p>Open Space used as dumpyard</p>	 <p>There are total <b>95(approx.)</b> trees are scattered on the site. DDA office complex mainly has trees of Neem, Jamun, Shuhoot, etc. and other trees such as Shisham, Peepal, Pilkhan, Babool, etc are also predominant on the site.</p>
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## DEVELOPMENT NORMS

### Slum & JJ Cluster Regulations & Guidelines

a) Minimum Plot Size	2000 sq.m. plot facing a min. 9m wide road
a) Maximum Dwelling Units	900 DUs/ Ha
a) Maximum F.A.R.	400
a) Ground Coverage	No restriction except setbacks
	<u>Rehabilitation Component</u> <u>Remunerative Component</u>
a) F.A.R.	As per relevant land use
a) Area	Min. 60%      Max. 40%
a) Parking	0.5 ECS per 100 sq.m *can be relaxed wherever required
a) Other Controls	Scheme/ design should be compatible for differently-able persons

### Resettlement/EWS Houses

a) Number of Houses	3914 (as per DUSIB Survey)
b) Area of each Dwelling Unit	Min. 25 sq.m & Max. 40 sq.m (Including Balcony, Common areas, etc. but excluding stilts).
c) Each Dwelling Unit will adhere to the following norms:	
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. m.
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.

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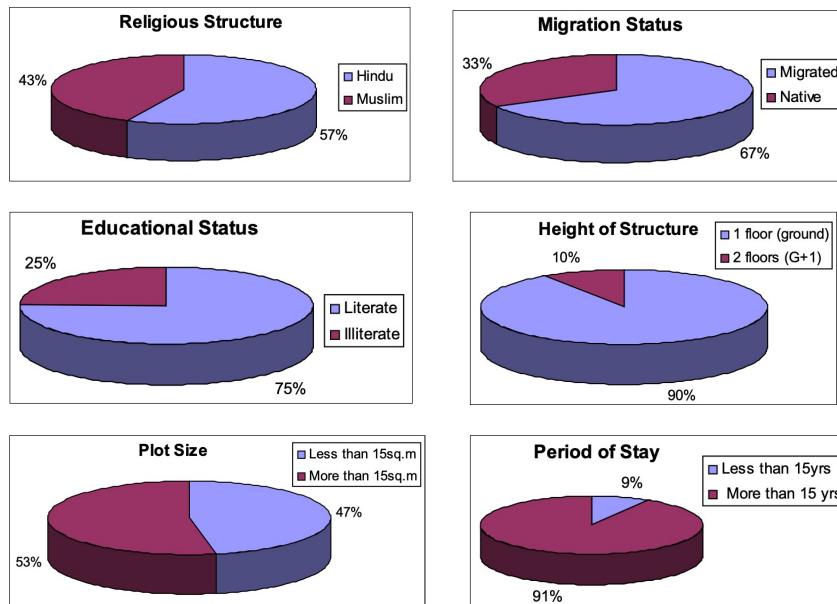
# Socio-Economic & Household Survey

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## SOCIO-ECONOMIC & HOUSEHOLD SURVEY

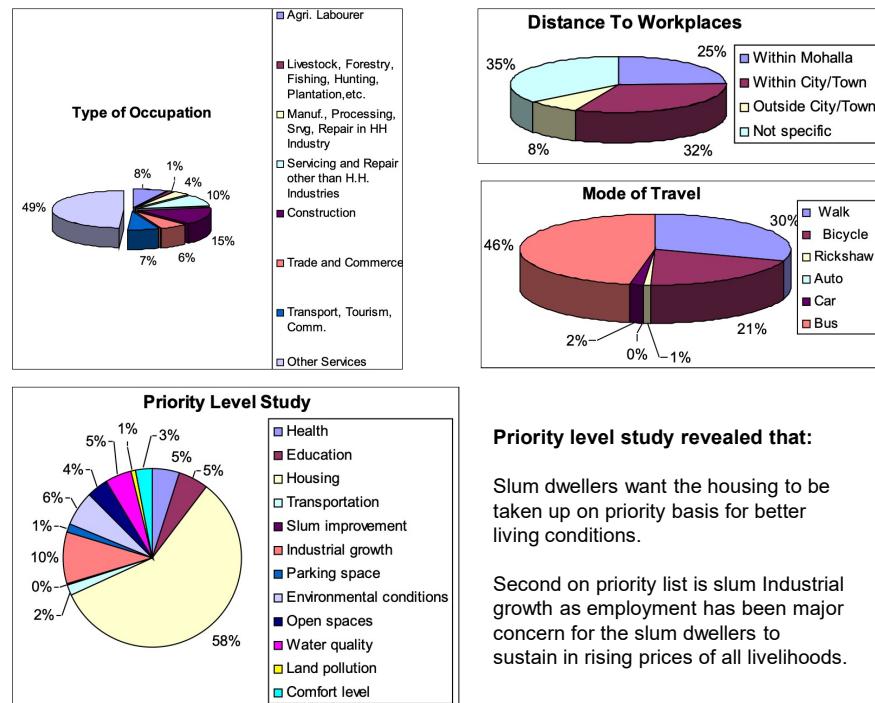
A site survey was carried out which revealed certain facts and figures about the site.



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## SOCIO-ECONOMIC & HOUSEHOLD SURVEY



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# Design Analysis & Approach

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## PROJECT COMPONENTS

Following calculations have been worked out considering the present scenario and 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
6.575 Ha	3914	17,613	595.285 DU/ha

Table 3.2: PROPOSED SCENARIO

Total Site Area for Rehabilitation	No. of HH's	Proposed population	Density
5.313 Ha	4245	19,100	800 DU/ha

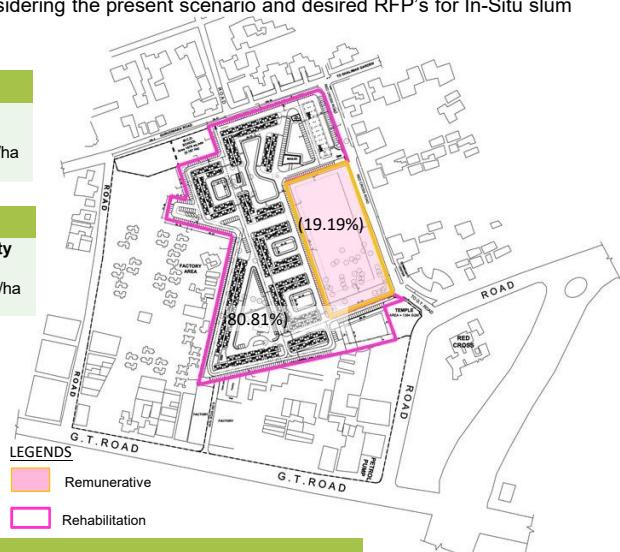
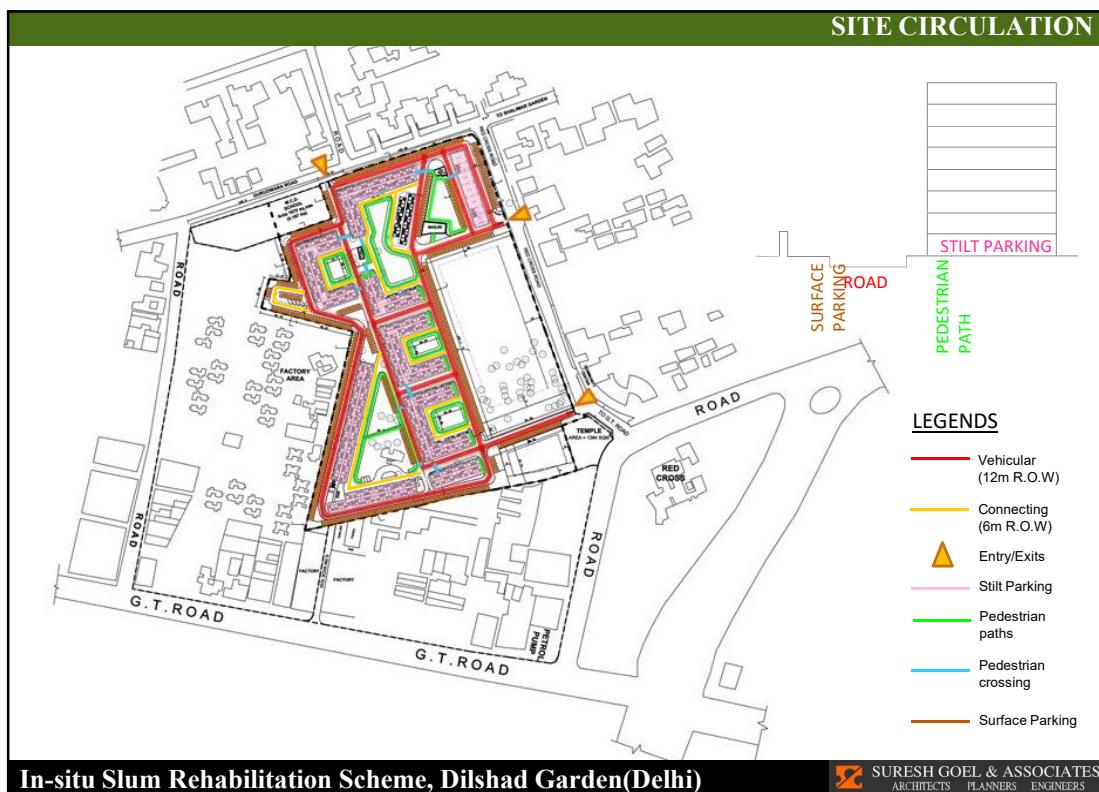
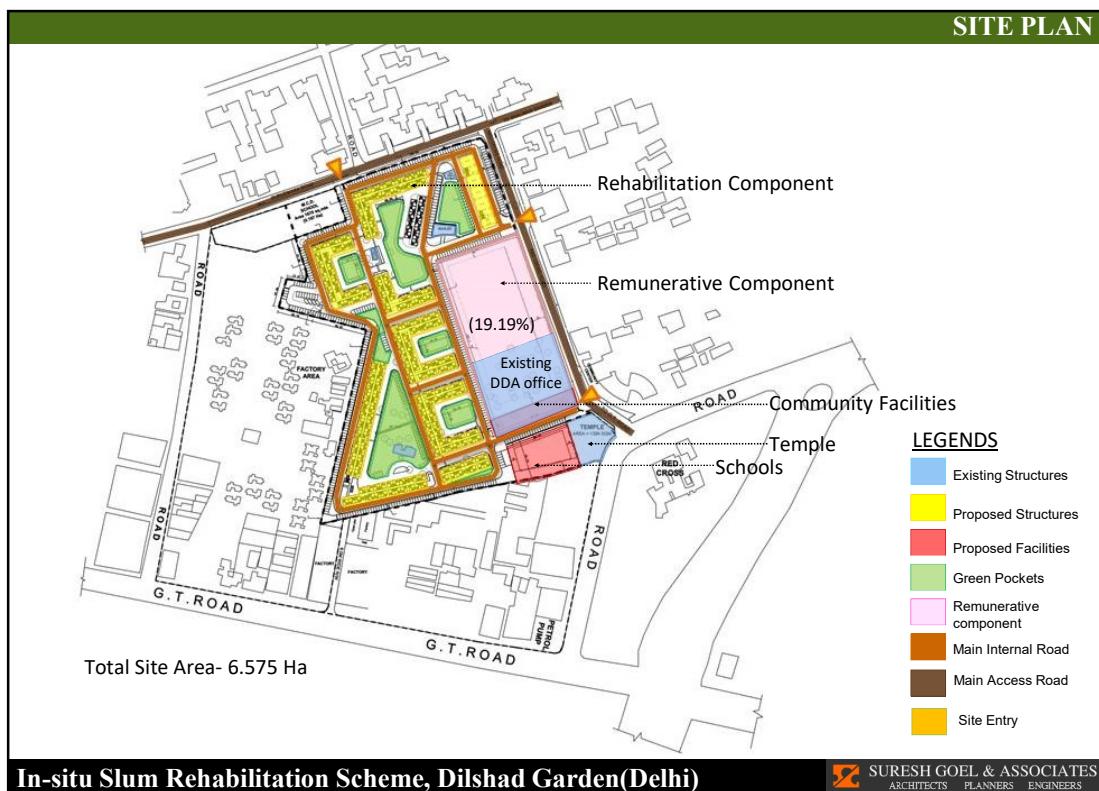


Table 3.3: AREA BREAKUP FOR SITE

Total Site Area	Facilities	NHP	Circulation	Remunerative Component	Residential + Commercial Component
100%	13.353%	14.434%	37.650%	19.193%	15.367%
<b>6.575 ha</b>	<b>0.8780 ha</b>	<b>0.9491 ha</b>	<b>2.4755 ha</b>	<b>1.2620 ha</b>	<b>1.0104 ha</b>

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## UNIT PLAN & BROAD SPECIFICATIONS

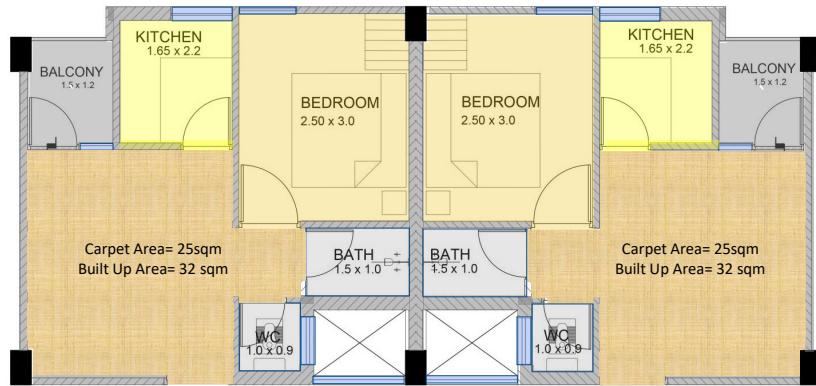


FIG: UNIT PLAN OF IN-SITU REDEVELOPMENT AT DISTRICT CENTRE, DILSHAD GARDEN

### Broad Specifications

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

#### Flooring

- 40mm thick CC flooring
- Kota Stone flooring
- 52mm thick CC flooring with hardner

#### Finishing

- Internal Finish on Walls: White wash with lime.
- External Finish on Walls: Washed grit plaster of approved design/pattern. Colour of grit work to be approved by Chief Architect of DDA.
- For Wet area/Dado: 10 mm/5 mm thick Ceramic colored glazed tiles (NITCO, SOMANY, KAJARIA or equivalent Make), up to lintel level. Colour to be as per design/drawing.

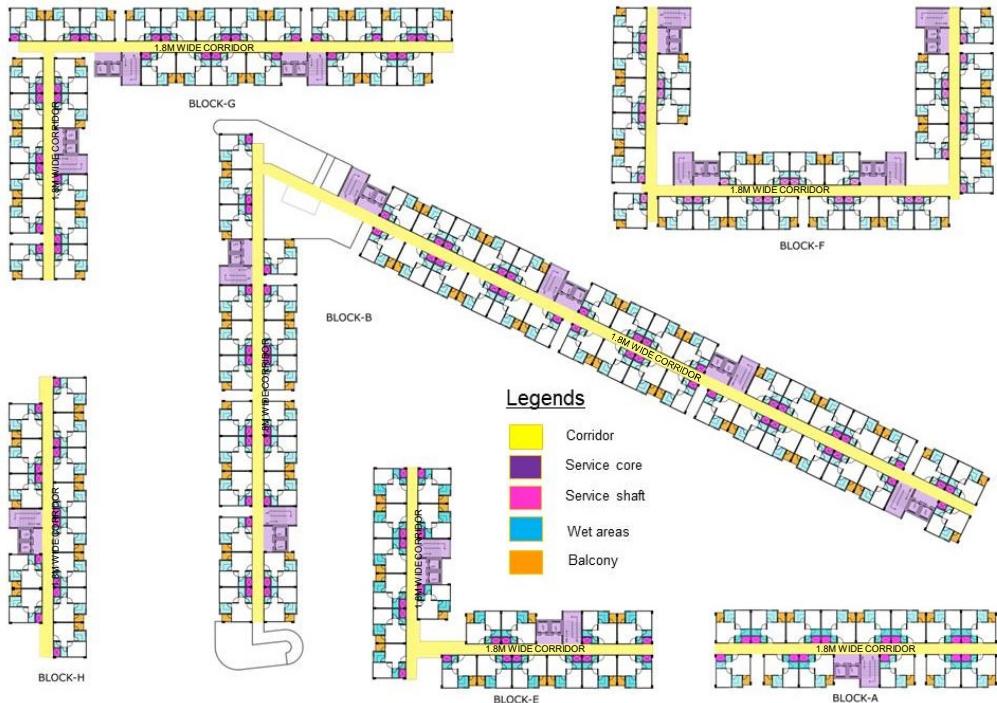
#### Steel Work: Pressed steel door frame.

- Wood Work: 30 mm thick flush door of block board construction with commercial ply veneers on both faces.

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## LAYOUT PLAN OF BLOCKS



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## AREA CALCULATIONS

Table 2 : Area Breakup as per final layout plan (Drg. No. - 08011-S1-AR-AP-001)						
RESIDENTIAL B/UP AREA	No. of Blocks	STILT+NO. OF FLOOR	Max. DUs/Floor	TOTAL DUs	Ground Coverage (in sqm)	TOTAL BUILT-UP AREA (in sqm)
Block-A	1	S+19	14	266	538	10222
Block-B	2	S+19	54	1026	2190	41610
Block-C	1	S+19	35	665	1453	27607
Block-D	1	S+19	34	578	1372	26068
Block-E	1	S+19	19	361	780	14820
Block-F	1	S+19	28	532	1192	19072
Block-G	1	S+19	30	570	1203	22857
Block-H	1	S+19	13	247	511	9709
<b>TOTAL</b>				227	4245	9239
<b>COMMERCIAL B/UP AREA</b>	<b>No. of Blocks</b>	<b>STILT+NO. OF FLOOR</b>			<b>Ground Coverage(in sqm)</b>	<b>TOTAL BUILT-UP AREA (in sqm)</b>
Block-I	1	S+17			800	13600
<b>TOTAL GROUND COVERAGE (RESIDENTIAL + COMMERCIAL)</b>						<b>10039</b>
<b>TOTAL GROUND COVERAGE (REHABILITATION AREA)</b>						<b>13015 (26%)</b>
<b>TOTAL RESIDENTIAL + COMMERCIAL AREA</b>						<b>185565</b>
<b>TOTAL COMMUNITY FACILITIES + EXISTING AREA</b>						<b>11050.78</b>
<b>TOTAL REHABILITATION AREA</b>						<b>196615.78</b>
<b>TOTAL FAR ACHIEVED</b>						<b>FAR = 392.63</b>
<b>MAXIMUM HEIGHT</b>						<b>63M + 5M OHT = 68M</b>

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## PHASING

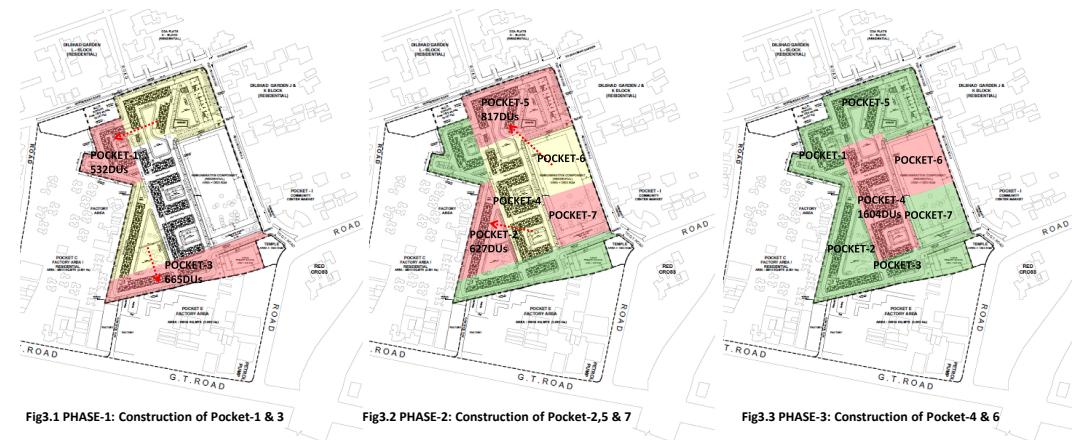


Fig3.1 PHASE-1: Construction of Pocket-1 &amp; 3

Fig3.2 PHASE-2: Construction of Pocket-2,5 &amp; 7

Fig3.3 PHASE-3: Construction of Pocket-4 &amp; 6

## PHASE I: -

In the Phase I of the development process, the vacant land (Pocket-1 & 3) will be cleaned and developed by constructing the dwelling units. The slum dwellers shifted from the Pocket 5 and Pocket-4 will be accommodated within these constructed pockets. (see Fig. 3.1).

## PHASE II: -

In the Phase II of the development process, the now empty land (Pocket-2 & 5) will be cleaned and developed by constructing the dwelling units and facility areas. The slum dwellers shifted from the Pocket 4 and Pocket-6 will be accommodated within these constructed pockets. Also, the DDA office land will be given to the developer for freesale. (see Fig. 3.2).

## PHASE III: -

In the Last Phase of the development process, the now vacant land (Pocket-4) will be cleaned and developed by constructing the dwelling units and the rest of land demarcated as remunerative component (Pocket-6) will be given to the developer for freesale. (see Fig. 3.3).

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# Feasibility Assessment

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## REHABILITATION COMPONENT

Table 4.1: SELLING RATE

SOURCE	RESIDENTIAL		COMMERCIAL
	90SQM (2BHK)	150SQM (3BHK)	
CIRCLE RATE (Source: dca.nic.in)	Rs 66,240 per sqm	Rs 76,200 per sqm	Rs 87,360 per sqm
MARKET RATE (Source: Sample Survey from Property Dealers of neighborhood)	Rs 1,12,000 per sqm	Rs 1,16,665 per sqm	Rs 1,67,580 per sqm

Table 4.2: REHABILITATION COMPONENT - Costing details

Land use	B/UP Area (SQM.)	Cost of construction	Sellable price
Rehabilitation Component	25 sqm Carpet Area/DU	(@ Rs.17,000 per sqm)	Not Applicable
Residential	B/UP Area = 1,63,168	Rs 2,92,34,05,000	
Commercial	B/UP Area = 13,600	(@ Rs.23,500 per sqm) Rs 31,96,00,000	(@ Rs. 1,50,000 per sqm) Rs. 2,04,00,00,000
Neighborhood Facilities NHP, Park + surface Parking	B/UP Area <b>9491+11339 = 20,830</b>	(@ Rs. 15,000 per sqm) Rs 31,24,50,000	N/A for residential use <b>68 ECS FOR COMMERCIAL AREA USE @ 5,00,000 / ECS</b> = 3,40,00,000
<b>GROSS TOTAL</b>		<b>Rs. 3,55,54,55,000</b>	
<b>Add: 15% FOR INFRASTRUCTURE</b>		<b>Rs. 53,33,18,250</b>	
<b>Add: DEVELOPMENT OF SITE</b>		(@ Rs. 800 per sqm) Rs 4,00,60,800	
<b>Add: TRANSIT COST</b>		(@ Rs. 3,500 per DU) Rs 1,36,99,000	
<b>Add: TREE FELLING/TRANSPLANT</b> (Compensatory tree: Ten times the no. Of trees felling/transplant)		(@ Rs. 32,000 per tree) Rs 6,40,000	
<b>NET TOTAL</b>		<b>Rs. 4,14,31,73,050</b>	<b>Rs. 2,07,40,00,000</b>
<b>LOSS of Rs. (-) 2,06,91,73,050 in Rehabilitation Component</b>			

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## **REMUNERATIVE COMPONENT- RESIDENTIAL**

Table 4.3: REMUNERATIVE COMPONENT- Land use details					Table 4.4: REMUNERATIVE COMPONENT - costing details			
Landuse	Land	MPD Proposal	B/UP Area	Free sale Commercial	Landuse	DU Size / B/UP Area	Cost of Construction	Sellable Price
Residential Component	1,2620 ha=19.193 % of 6,575 ha	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%	(Taking FAR as 200) 25,240 sqm	25,240 Sqm			(2BHK = 13,500 sqm, 3BHK = 11,250 sqm) = (150 DUs + 75 DUs)	
						25,240 sqm		
						90 sqm (2BHK)		(@ Rs 1,12,000 per sqm)
							(@ Rs. 17,000 per sqm)	Rs. 1,51,20,00,000
						150 sqm (3BHK)	Rs. 42,90,80,000	(@ Rs 1,16,665 per sqm) Rs. 1,31,24,81,250 = 2,82,44,81,250
						(180 ECS)	(@ Rs. 15,050 per sqm)	(@ Rs. 5,00,000 per ECS)
						Stilt Area=5,048 sqm	Rs. 7,59,72,400	Rs. 9,00,00,000
						<b>GROSS TOTAL</b>	<b>Rs. 50,50,52,400</b>	
						<b>Add: 15% FOR INFRASTRUCTURE</b>	<b>Rs. 7,57,57,860</b>	
							(@ Rs. 800 per sqm)	
						<b>Add: DEVELOPMENT OF SITE</b>	<b>Rs 1,00,96,000</b>	
						<b>NET TOTAL</b>	<b>Rs. 59,09,06,260</b>	<b>Rs. 2,91,44,81,250</b>
						<b>Profit of Rs. (+) 2,32,35,74,990 in Free sale Component</b>		
						<b>Net Profit of Rs.(2,32,35,74,990 - 2,06,91,73,050)=(+) 25,44,01,940 (Twenty five Crore forty four lakh one thousand nine hundred forty only)</b>		

## **In-situ Slum Rehabilitation Scheme, Dilshad Garden(Delhi)**



## REMUNERATIVE COMPONENT- COMMERCIAL

Table 4.5: REMUNERATIVE COMPONENT- costing details			
Landuse	DU Size / B/UP Area	Cost of Construction	Sellable Price
Remunerative Component	18930 sqm		
Remunerative Component-C ommercial		(@ Rs. 23,500 per sqm) Rs 59,31,40,000	(@ Rs 1,67,580 per sqm) Rs. 3,17,22,89,400
<b>GROSS TOTAL</b>		<b>Rs. Rs 59,31,40,000</b>	
<b>Add: 15% FOR INFRASTRUCTURE</b>		<b>Rs. 8,89,71,000</b>	
<b>Add: DEVELOPMENT OF SITE</b>		<b>(@ Rs. 800 per sqm) Rs 1,00,96,000</b>	
<b>NET TOTAL</b>		<b>Rs. 69,22,07,000</b>	<b>Rs. 3,17,22,89,400</b>
<b>Profit of Rs. 2,48,00,82,400 in Free sale Component</b>			
<b>Net Profit of Rs.(2,48,00,82,400 - 2,06,91,73,050)=(+)41,09,09,350 (Forty one Crore nine lakh nine thousand three hundred fifty only)</b>			

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**Thank You!**