





AN APPROACH TO AFFORDABLE HOUSING STRATEGY IN BHUBANESWAR, ODISHA



Prepared under:

The grant agreement between Scaling City Institutions for India (SCI FI) at Centre for Policy Research (CPR) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, titled Furthering the Debate on Land, Planning and Housing in India.

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Acknowledgement:

The authors are grateful to the state and city officials for providing their guidance, support, valuable time, and information during the assessment. In addition, we thank the GIZ team members in Delhi and Mr. Bibhu Prasad Tripathy in the state of Odisha for their invaluable contribution to the process. We are also grateful for the research assistance received from Shaurya Gupta, Abhinav Kumar, and Ram Kumar Dan.

SCI FI-CPR is responsible for the content of this publication.



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LIST OF ABBREVIATIONS

AHA	Affordable Housing Area
AHP	Affordable Housing Project
BDA	Bhubaneswar Development Authority
BMC	Bhubaneswar Municipal Corporation
BUA	Built Up Area
DA	Developer Area
DDA	Delhi Development Authority
DU	Dwelling Unit
EDC	External Development Charges
EWS	Economically Weaker Section
FAR	Floor Area Ratio
FSI	Floor Space Index
GST	Goods and Service Tax
HFA	Housing For All
HIG	Higher Income Group
LIG	Lower Income Group
MIG	Middle Income Group
MMRDA	Mumbai Metropolitan Region Development Authority
PDA	Project Development Agency
PMAY -U	Pradhan Mantri Awaas Yojana (Urban)
PPP	Public Private Partnership
SOP	Standard Operating Procedure
TDR	Transferable Development Rights
TP	Town Planning Scheme
ULB	Urban Local Body



1 SETTING THE CONTEXT





n the lower-income segment, India's affordable housing deficit garners very little formal private sector participation. Formal private players, which include developers and housing finance companies, tend to primarily target higher-income segments, resulting in sustained supply and fostering competition¹.

Rapid urbanisation remains a significant contributor to the continuous demographic shift. The influx of population into urban areas is stimulated by the attraction of cities for employment opportunities, better standard of living, better educational facilities, infrastructure, etc. However, this increasing population pressure results in the widespread existence of slums and sprawls.

This problem only is intensified with an increasingly urban population where it is expected to reach about 600 million by 2031².Given this scenario, it becomes critical to fill the existing gaps in the country's strained urban infrastructure and, in particular, housing. It would be important to address the need in the EWS (Economically Weaker Sections) and LIG (Lower Income Groups), which currently account for 95.6 percent of urban housing shortage in the country³. While efforts of the governments (both central and state) taken in the past are commendable, they need to be accelerated to eliminate the housing deficit in the country.

Odisha, a low-income state in India with a population of over 43 million, has witnessed an annual urban growth of 27 percent per annum over the last decade. This rapid urbanization has posed several challenges for the city, including an estimated shortage of 410,000 homes. This necessitates Odisha to design progressive initiatives with a large prospective of social impact, heightening a need for a long-term strategy and a futuristic blueprint.

To ensure provisions of housing for all, the State Government has notified amendments in "Policy for Housing for All in Urban Areas, Odisha- 2015," which prescribes mandatory development of EWS housing, incentives to be given to private developers, and government agencies in terms of FAR, norms for promotion of mixed-use development and relaxations in terms of various fees.

In addition, the new rules also facilitated significant improvements in the affordable housing sector guided by exemptions and relaxations in the setbacks, approach road, parking, FAR restriction, and many other building norms to attract more and more investment in the housing sector. With all these and many more provisions in the new rules, the government wants to bring about a radical change in the Real Estate sector, which is expected to set in competition in the market and ensure investment in an unprecedented scale in the real estate sector in general and affordable housing in particular.

With approximately 23 percent of people in the state residing in slums in the capital city of Bhubaneswar, there is an estimated shortage of 80,000 housing units, specifically among low-income families. Intending to bridge this gap, the Bhubaneswar Development Authority (BDA) has embarked on the ambitious task of creating a roadmap for the production of 100,000 affordable housing units. As noted in previous policy documents of the Government of Odisha (e.g., "Policy for Housing for All in Urban Areas, Odisha, 2015"), this has indeed been a missing link in the housing situation in Bhubaneswar. Most of the new housing created in the last years has been in the HIG and MIG categories, with very few projects catering to the needs of the LIG and EWS categories. Since 2018, the Government of Odisha has made rapid strides in slum land titling and upgradation through its flagship Jaga Mission, but numbers of new houses created in the LIG and EWS categories have remained meagre.

Against this background, with support from GIZ, India, the objective of this assignment was to devise a strategy for the implementation to achieve affordable housing for BDA under Odisha's Policy for "Housing for All in Urban Areas," 2015, outlining the risks, challenges, and mechanisms to mitigate the same.

 $^{2} https://smartnet.niua.org/sites/default/files/resources/Affordablepercent20Housing-ICCpercent20-percent20Final.pdf$

³ https://smartnet.niua.org/sites/default/files/resources/Affordablepercent20Housing-ICCpercent20-percent20Final.pdf

¹https://www.thehindu.com/real-estate/ppp-in-real-estate/article22230299.ece

2 APPROACH AND METHODOLOGY



Ithough significant efforts have been made in cities around the country to generate policies for supporting affordable housing creation, there has not been adequate use of available data and spatial analytics to make such policies more effective and relevant. Combining different types of digital data and processing them on a platform can facilitate the testing and visualisation of existing models' outcomes and help generate newer and more fine-tuned models. The current strategy document focuses on laying down processes that guide the use of such digital data rather than the specificities. This strategy adopts a complimenting methodology of spatial analytics and policy support.

A two-phased approach has been adopted for developing this strategy paper. Data analysis was taken up spatially and through desk review in the first phase. Ward level spatial analysis had been undertaken with spatial inputs at the city level on the aspect of authorised and unauthorised slums, slums covered under JAGA Mission (slum upgradation), the extent of Govt. and Non-govt. land in the city, circle rates within city limits, holding tax /property tax and residential densities as per Master Plan. Simultaneously, the secondary literature review was undertaken to review the best cases of National and international Affordable Housing Models to understand the challenges and opportunities.

Based on the analysis conducted during the first phase, different models for providing affordable housing in BDA are devised, including government-provided affordable housing, housing in PPP, and provision for relocation. After that, two representative wards are selected to simulate the models mentioned above and map strategies across the wards as per the specific requirements and existing conditions of the slum, depending on the spatial analytics undertaken in phase 1. Based on the pilot's two phases, a detailed strategic approach is developed for Bhubaneswar to enable its journey toward a slum-free, inclusive and sustainable city.

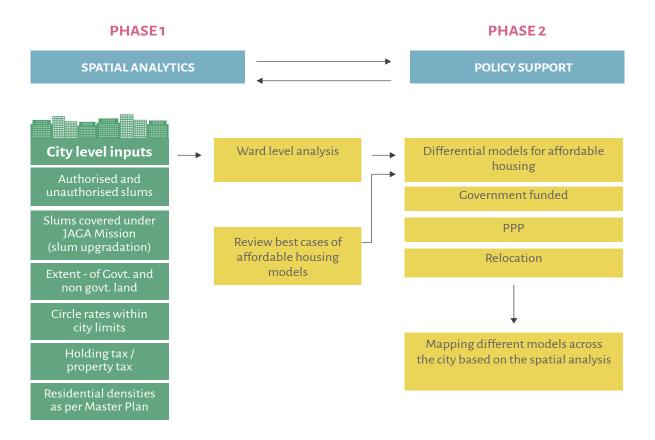


Figure 1: Conceptual framework for the strategy

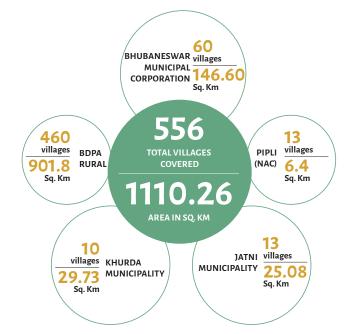


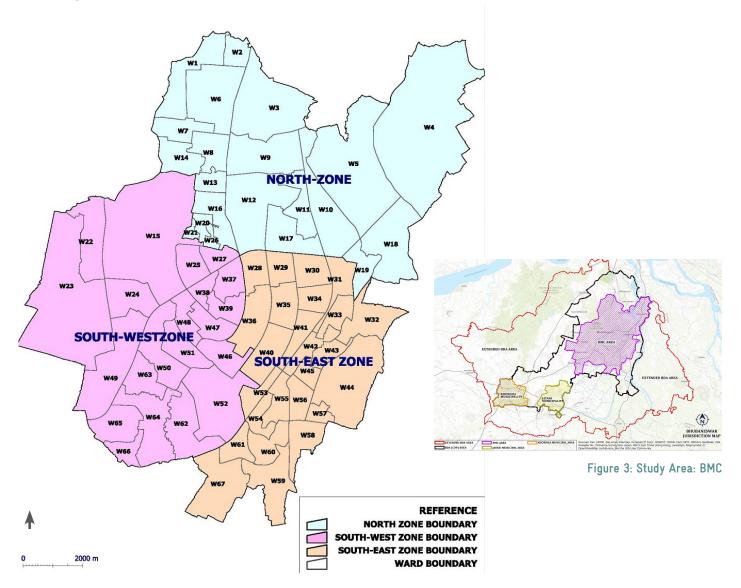
Figure 2: Total area under BDA

Selection of the Study Area

BDA was constituted on 1st Sept 1983 under the ODA Act, 1982. Initially, 115 revenue villages of Bhubaneswar, Khordha, and Jatniwere taken into its jurisdiction, but due to bifurcation and inclusion of new villages, at present, the number of villages under its jurisdiction stands at 556.

However, only the Bhubaneswar Municipal Corporation had been considered for this strategy document. It includes 67 wards having a population of 8,40,834 and an area of 186 sq km. There are 436 slums with 80,665 slums HHs translating to a slum population of 301,611. In the last year, 115 slums have been delisted under JAGA Mission in the city.

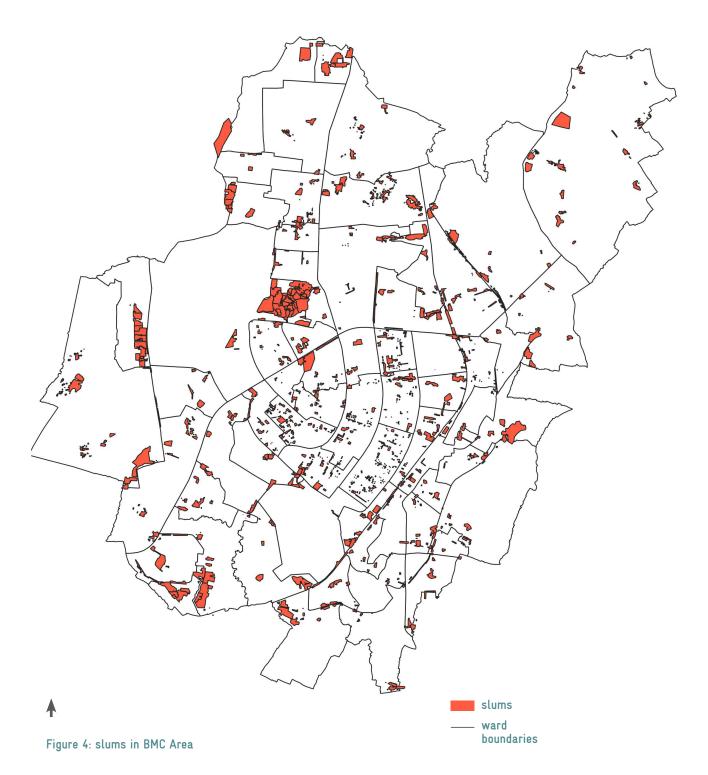
Ward no 22 and 27 have been selected for the pilot. The two wards were chosen primarily based on their location within the city limits as well as the





benchmark values of the land. Ward 27 is located at the city centre with massive demand for land with high land prices, whereas ward 22 is situated at the city's periphery with comparatively low land prices.

Limitation of the study:



Though the BDA area consists of Pipli NAC, BDPA rural, Khurda Municipality, Jatni Municipality, and Bhubaneswar Municipal Corporation, the study considers only the Bhubaneswar Municipal Corporation area. Moreover, the slum data used for the analysis was collected a decade back during 2012 and may require updating. One significant limitation has been the inability to ground verify the social, economic, and spatial data points.

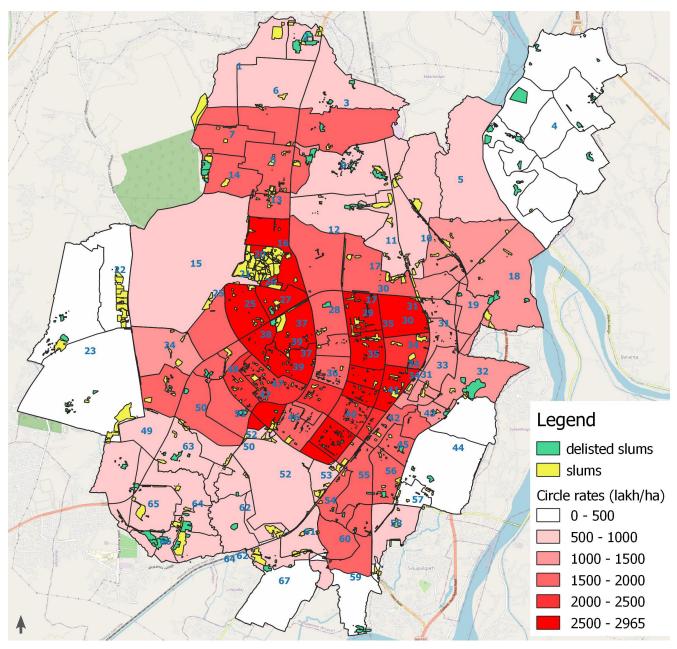


Figure 5: Circle rates across BMC



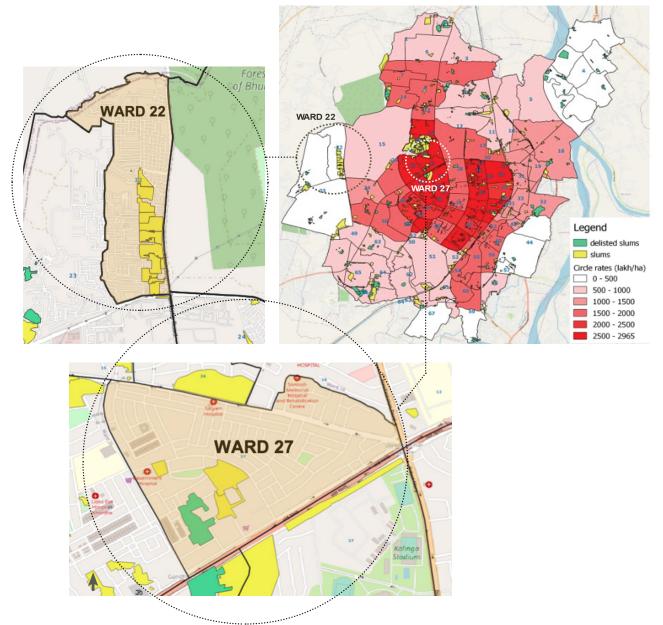


Figure 6: Pilot wards



3.1 CASE 1: RAJASTHAN MODEL

Development strategy

Rajasthan has been one of the several states that have notified their affordable housing policy to address the housing shortage. The current urban housing shortage in Rajasthan is 1.15 million units. Its affordable housing policy of 2009 consists of a series of land sharing models and mandatory provisions for government agencies and private developers under which affordable housing projects are constructed.

In Rajasthan, specific models under the State Affordable Housing Policy, 2015 are structured on a 75:25 land-sharing basis between the private developer and the government agency. Under such a model, a private developer constructs affordable housing units on 75 percent of a land parcel owned by the Central/State/Local government but is currently vacant and not in use. The remaining 25 percent of the land is given to the developer to be developed by him for free sale housing units or commercial areas.

Major incentives offered under the policy by Government of Rajasthan include:

• Drastic reduction in stamp duty in the case of EWS/ LIG category houses (from 8 percent to Rs.10/- for EWS and Rs.25/- for LIG category);

- Incentivising private developers through doubling of the permissible FAR; Facility of Transfer of Development Rights (TDR) as per TDR policy;
- Complete waiver of External Development Charges (EDC), Building plan approval fees, Conversion charges; Commercial use up to 10 percent of the plot area;
- Fast track approval of the project within 30 days; and Buy back of the flats by the state government's nodal agency at a pre-determined price.

3.2 CASE 2: GUJARAT MODEL

Development strategy

In Gujarat, a land pooling mechanism is adopted for urban land development. Under this, Town Planning (TP) Schemes are prepared for lands not acquired by the government agency. The town planning scheme implements 15-20 percent land for affordable housing as appropriation. Individual plot owners are considered partners and get increased FSI and amenities while trading 40 percent of their land to the government. However, it will also increase the land price due to road widening and better infrastructure facilities.

Under the slum redevelopment model for affordable housing through the PPP model, the incentive of



Figure 7: Affordable housing in Rajasthan



Figure 8: Affordable housing in Gujarat

additional FSI of 50 percent of the FSI consumed in slum redevelopment is offered to the landowner/ developer to develop the remaining land.

3.3 CASE 3: HONG KONG MODEL

Development strategy

The incentives given to the private developers by the government of Hong Kong are the following:

- By giving FSI bonus and converting single-use development to mixed-use development increase land value capture
- 50percent land premium discount is given to developer in return for the government taking part of the land for free to develop public housing

3.4 CASE 4: MALAYSIA, KUALA LUMPUR MODEL

Development strategy

The government of Malaysia introduces a specific and customized solution of a new low-income housing model, which is developed by extending the Smart Growth. It has projected the result to encourage the developers to venture into low-income housing, by the following incentives:

• Reduction in Development cost to encourage the private sector's participation in the provision of low-cost housing in Kuala Lumpur

- Easy access to CHKL land
- Reduction of parking requirements from 1:1 to 1:4 and exemptions from payment of development charges and improvement service funds
- Private developers are offered with 'one-stop approval' section in CHKL
- waiver of 100percent stamp duty exemption Good and Services Tax (GST) of 6percent on construction materials for houses priced below RM500,000 to aid private developers to build more affordable homes



Figure 9: Affordable housing in Hong Kong



Table 1: Comparative analysis of various national & international affordable housing models

	Gujar	at	Rajasthan	Odisha	Hong Kong	Malaysia Kuala Lumpur	
Progress under AHP vertical of PMAY -U	2017	Houses Approved: 62,125 Work Order Issued: 49,747	Sanctioned Houses: 14487 Dwelling Units taken up: 7447	Units Sanctioned- 6462	NA	NA	
		Completed: 4799	/++/				
	2018	Houses Approved: 1,16,128	Sanctioned Houses: EWS – 43847 ,	Houses Approved: 12010	NA	NA	
		Work In Progress: 49,513	43847, LIG- 20839	Work Order Issued: 5262			
		Completed: 10,644		Work Order Cancelled: 5548			
	2019	Houses Approved: 2,15,222	Sanctioned Houses: EWS –	Houses Approved: 6462	NA	NA	
		Work In Progress: 57,600	45951, LIG- 21751	Under Progress: 4292			
		Completed: 76,771	Under Progress: EWS – 23571				
			LIG- 11165				
Incentives to developers	incent opmer velopn Space planni For pro incent cial de tion by	situ slum rehabilitation ives like Transferable Devel- nt Rights (TDR), free sale de- nent rights, enhanced Floor Index (FSI) and rationalized ng norms oviding affordable housing ives like 10percent commer- velopment, cross subsidiza- y allowing development for ile for maximum 2/5th FSI	Double of the permissible FAR, facility of TDR as per TDR Policy, 0.5 Additional FAR for timely completion of project Complete waiver of External Devel- opment Charges, Building Plan Approval Fees, Con- version Charges Commercial use up to 10percent of plot area Fast Track Approval of the project – within 30 days	Additional compensatory FAR equivalent to 100percent of built-up area utilized for EWS and LIG (50 per- cent of LIG under market-based development of housing) Utilization of re- maining built-up area for other cat- egories of houses and commercial purposes. (10per- cent of built-up area) Mixed-use devel- opment in area reserved for EWS and LIG dwelling units (5percent of built-up area) Other incentives like Fast track ap- proval, Exemption from Building Plan approval fee & external devel- opment charges.	By giving FSI bonus & converting single use to mixed use de- velopment increase land value capture 50percent land premium discount is given to developer in return for the government taking part of the land for free to develop public housing	Reduction in De- velopment cost to encourage private sector's participa- tion in the provision of low-cost housing in Kuala Lumpur Reduction of park- ing requirements from 1:1 to 1:4 and exemptions from payment of devel- opment charges and improvement service funds Private developers are offered with 'one-stop approval' section in CHKL (d) waiver of 100percent stamp duty exemption Good and Services Tax (GST) of 6per- cent on construction materials for houses priced below RM 500,000 to aid private develop- ers to build more affordable homes	

4 PILOT IN TWO WARDS





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he strategy has been piloted in two wards, ward no 27 and ward no 22. to see the approach's applicability. For doing so, the existing criteria for implementing PPP in affordable housing has been listed as per the Odisha Development Authorities Rules (Planning and Building Standards), 2020 and the Policy for Housing for All in Urban Areas, Odisha, 2015, which aims to create a comprehensive, holistic policy framework to address all aspects of housing for the urban poor including slum rehabilitation and redevelopment.

4.1 APPROACH AND STRATEGY FOR WARD NO 27

Ward no 27 has a population of 12,039 with 2,958 HHs. There are four pockets of slums within the ward, namely Gandhi Basti, Ganapati Nagar Basti, Trinath Nagar, and Khola building. This ward is located at the

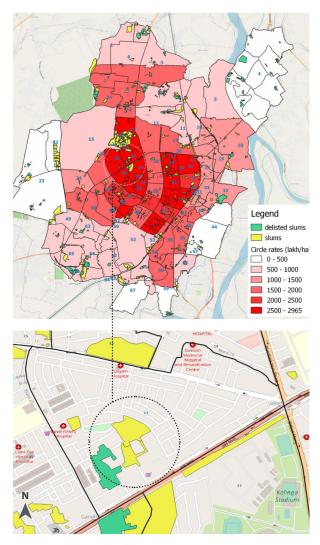


Figure 10:Slums in Ward no 27

prime location in the city in proximity to the Kalinga Stadium. It is just beside the NH5 and has hospitals, health centres, market place, hotels, and parks within the ward. The total number of slums HHs in the slum is 1511; however, one of the slums called Gandhi Basti has been upgraded and delisted, located on a 5.04acre land having around 31 HHs. Hence, currently, about 50 percent of the ward's population lives in slums. The remaining three slums are:

Ganapati Nagar Basti – 4.5 acres having 838 HHs

Trinath Nagar – 2 acres having 554 HHs

Khola building – 1 acre having 88 HHs

The feasibility of PPP intervention for in situ redevelopment has been assessed for each slum pocket for recommending the strategy suitable for the slum pockets in the ward. For Ganapati Nagar Basti, 838 HHs have to be rehabilitated in-situ within 4.5 acres of land. Therefore, the maximum FAR permissible is considered at 3.5. Keeping the density at 200 DUs/ Acres as per the table above, the area required for housing 838 HHs comes to 93.1 percent, which is the Rehabilitation Area which is 4.19 acres. Hence the remaining area, which is the developer area, comes to 6.9 percent at only 0.31 acres. Taking the super builtup area as standard at 32.2 sq.m for the EWS units and Neighbourhood Shopping Area and Community Area at 5 percent of Residential Built-up area and the cost of construction including the infrastructure at INR 2424 per sq.ft, as per current rates, the capital cost for the rehabilitation area is about INR 73 Cr. Considering the period of the project five years and assuming two scenarios where the developer area could be used as a commercial area or residential area for HIG/MIG category, the IRR and NPV have been calculated. In both cases, they are negative. Hence, the feasibility of PPP under the existing circumstances is not possible.

For Tirath Nagar, where 545 HHs reside on a 2-acre land, PPP is not feasible because to maintain a density of 250 DU/acre, the area required is at least 2.18 acre. Since there is no vacant land adjacent to the slum sites, annexing extra land is also not possible in both cases.

Finding:

PPP intervention is not feasible in this area. Therefore, an additional estimated INR 600,000 subsidy per EWS unit will be required from the state/city governments as viability gap funding to make the PPP arrangement work, over and above the government of India subsidy available under PMAY-U.

Table 2:Regulations for development of Affordable housing as per Government of Odisha

	Regulations	As per Odisha
1	Maximum FAR	3.5
2	Neighborhood shopping and community facilities (percent BUA)	5percent
3	Number of floors (without elevators)	G+4
4	Affordable Housing Area (AHA)	at least 65percent
5	Developer Area (DA)	remaining
6	Concession Fees	to be quoted by the private developer for the project
7	Land	NA
8	sanction fee of building plan	NA
9	payment of external/peripheral development charges of Urban Local Bodies	NA
10	keeping of security deposit by building plan approval agencies	NA
11	Min. Carpet area (sq.m.) for EWS	21
12	Max. Carpet area (sq.m.) for EWS	30
13	Standard Carpet area (sq.m.) for EWS	23
14	Super Built–up Area for EWS	140percent of the carpet area
15	Density up to 1 acre	300 DU/acre
16	Density from 1 to 2.5 acre	250 DU/acre
17	Density above 2.5 acre	200 DU/Acre
18	Maximum ground coverage	no limit
19	Minimum internal road width	6 m wide

Note Below:

- i. Cost of Construction of each dwelling unit (Lump Sum including land development cost and internal infrastructure cost) is taken as Rs.1750 / Square feet. This will vary from year to year and thve same will be notified by the State Government from time to time.
- ii. Sale Price of all Affordable Housing Units shall be on no profit no loss basis. Further, Odisha Housing Mission will make efforts to ensure that a beneficiary, who is allotted affordable housing unit under this policy, can avail of benefits of government schemes and subsidies. But in case of non-availability of subsidy, likely Cost to the Beneficiary may increase up to cost of construction.
- iii. 2percent of the total estimated cost to be deposited after completion of the work by PDA or private developer for the respective projects.
- iv. 50 percent of the rent accruing out of the neighbourhood shopping units constructed within the Housing Estate. The amount of rent collected by the PDAs to the extent of applicability of this clause will be transferred to Registered Agency's Corpus Fund.
- v. The development of external and internal infrastructure shall include:
 - External development: External development shall include road connectivity, street lighting, water supply, sewerage connection, solid waste management facility and public transport service. The government agencies concerned should provide for the same to the projects to the extent possible.
 - Internal development: Internal development works shall include all internal roads, footpaths, complete water supply including overhead or surface water reservoir/distributions lines. Electric distributions lines/11 KV line/transformers etc. (if required), internal sewer lines/drainage lines/Nullahas (wherever required), gated compound/streetlight/ parks/adequate and proper tree plantation in parks and in front of buildings. Rainwater harvesting structures & sewerage treatment plant shall be mandatory as per requirement.



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Note:The following approach combines the area of Ganapati Nagar Basti and Trinath Nagar to settle all the slum dwellers of the three slum pockets. The two sites can be considered together because they are adjacent to each other and share a common boundary. The combined land area is approximately 6.5 acres and the number of HHs to be accommodated comes to 1480. However, the PPP intervention is not feasible considering the density of 200 DUs/acre per the existing norms because to settle 1480 HHs, about 7.4 acres of land would be required.

Since the first two approaches did not work, the next step is to calculate the total area and the equivalent HIG/MIG units required to make the project feasible for relocation to see if the relocation strategy would work. Considering 3.5 FAR, density 200 DUs/Acre, and 1480 EWS dwelling units, the area required would be approximately 16.65 acres, and no of equivalent HIG/MIG units to be sold should be around 1238. Assuming the area of the HIG/MIG units to be 150 sqm. However, PPP is not feasible given there is no vacant land amounting to 16.65 acres within a 5 km radius of the slums.

Table 3:	Feasibility	of PPP	for Ganesh	Nagar
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Total project area	Acres	4.5
Total no of DU		838
Rehabilitation area	Acres	4.19
Developer area	Acres	0.31
Maximum permissible FAR		3.5
Density	DUs/Acre	200
Standard super built up area	sqm	32.2
Neighbourhood Shopping Area and Community Area of RBUA		5percent
Cost of Construction (Lump Sum including internal infrastructure)	/sq.ft	2424
INVESTMENT COST		
Total Cost of Development of redevelopment area	INR	73 Crore
Maintenance Corpus Fund @ 2percent		2percent
Total Cost of Development of the developer area	INR	6 Crore
Land		NA
sanction fee of building plan		NA
payment of external/peripheral development charges of Urban Local Bodies		NA
REVENUE		
sales of residential units	INR/sqft	5000
Sales of commercial units	INR/sqft	10000
Concession fee		5percent
Revenue from state	INR/DU	1.5 Lakh
Profit		18percent

4.2 APPROACH AND STRATEGY FOR WARD NO 22

Located towards the western edge of the city, Jokalandi is a BSUP project site listed as an authorised slum by BMC. The entire settlement is divided into 12 clusters, with the later additions being more recent. The total area of the slum is 74 acre, and 3039 EWS HHs resides in the slum. All these settlements are around 25 years old. These HHs were shifted to Jokalandi Mouza, the exact opposite side of the city before, in 1998, under rehabilitation schemes initiated by the government. It was later taken up under BSUP. There are some stretches within Jokalandi, especially towards the road in Cluster 10, where there is no BSUP housing but squatter settlements on government land, with no form of patta or rights for these houses. Households that do not have a patta get water from a nearby government boring connection. They also received \bar{z} 5,000 as a subsidy to build their toilets. The BSUP houses have a 90-year leasehold with restrictions on sale. Houses have PHED water connections and individual toilets.

The feasibility of PPP intervention for in situ redevelopment has been assessed for the whole slum. 3039 HHs need to be rehabilitated in situ on 74 acres



Figure 11: original location of unit 6 & 7, that was relocated to Jokalandi Source: IJSMET-2015-108

of land. Therefore, the maximum FAR permissible is considered at 3.5. Keeping the density at 200 DUs/ Acres as per the table, the area required for housing 3039 HHs comes to 15.20 acres, the Rehabilitation Area. Hence the remaining area, which is the developer area, comes to 58.81 acres.

Taking the super built-up area as standard at 32.2 sq.m for the EWS units and Neighbourhood Shopping Area and Community Area at 5 percent of Residential Built-up area and the cost of construction including the infrastructure at INR 2424 per sqft, as per current rates, the capital cost for the rehabilitation area is about INR 268 Cr. Considering the period of the project five years and assuming two scenarios where

the developer area could be used as a commercial area or residential area for HIG/MIG category, the IRR and NPV have been calculated. While in the case of commercial, it is positive, in the case of residential units, it is negative.

Finding:

PPP becomes feasible if commercial development is used for cross-subsidisation and HHs agree to the land pool and settle for a multi-story residential arrangement. However, given the slum had been taken up under BSUP in the past and possess patta, such an approach to the site development may become timeconsuming and lead to litigation.

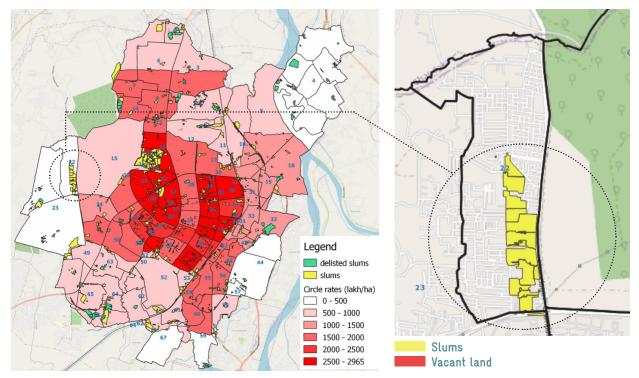


Figure 12: Slums in Ward no 22

Table 4: Feasibility of PPP in Jokalandi

Total project area	Acres	74
Total no of DU		3039
Rehabilitation area	Acres	15.20
Developer area	Acres	58.81
Maximum permissible FAR		3.5
Density	Dus/Acre	200
Standard super built up area	sqm	32.2
Neighbourhood Shopping Area and Community Area of RBUA		5percent
Cost of Construction (Lump Sum including internal infrastructure)	/sq.ft	2424
INVESTMENT COST		
Total Cost of Development of redevelopment area	INR	268 crore
Maintenance Corpus Fund @ 2percent		2percent
Total Cost of Development of the developer area	INR	2,466 Crore
Land		NA
sanction fee of building plan		NA
payment of external/peripheral development charges of Urban Local Bodies		NA
REVENUE		
sales of residential units	INR/sqft	2000
Sales of commercial units	INR/sqft	4500
Concession fee		5percent

4.3 LEARNINGS FROM THE PILOT:

The fundamental strategy underlying Public-Private Partnerships as an implementation strategy for affordable housing is to combine the strengths of the private sector with those of the public sector to overcome challenges of delivering affordable housing at scale and achieve optimum outcomes. While PPPs can offer a broader range of financing options toward affordable housing provision, localisation of PPP strategy is guided by five key considerations, including but not limited to:

- the prescribed density of the area as per regulations,
- the market value of the land,

- demand for HIG/MIG units or commercial units for cross-subsidizing the EWS housing,
- HHs possessing land ownership documents
- Profitability of the private partner and

In addition to the above success of any PPP, the partnership is also contingent upon the ability of the partners to share risks associated with the project optimally. Given this, each PPP decision must be evaluated against other available slum redevelopment strategies such as in situ slum upgradation linked with BLC subsidy for housing improvement or public sectorled redevelopment, among others.

5 THE STRATEGIC APPROACH





Previous experience of BDA's affordable housing initiative points out that most of the EWS/ LIG projects are located on the outskirts of the cities. Hence, the connectivity & infrastructure pose a challenge for aspiring home buyers to make a purchase decision. Additionally, there is a gap between demand and supply for EWS/LIG housing units. Therefore, developers focus on HIG/ MIG Units, while most beneficiaries lie in the EWS/LIG category. However, an interestingly high number of HIG/MIG units need to be created to cross-subsidise the EWS/ LIG units, which might increase the vacant housing stock.

Between 2001 and 2011, only 67,721 new residential census houses were added in Bhubaneswar, translating to the addition of 6700 houses every year on average. The pilots detailed in the previous chapter shows that the land monetisation approach will necessitate that for every 100 EWS houses, approximately 65 HIG/MIG units need to be built. Extrapolating this, a back of envelope calculation suggests that to house the current slum HHs of 75,403, around 50,000 HIG/MIG houses have to be built. Given that Bhubaneswar only adds 6700 houses per year on an average building, 125,000 housing units will require three times the construction capacity per year over five years. Further, the uptake of HIG/ MIG units will also be subjected to the availability of adequate demand in the market.

Against this background, it may be time for BDA to revisit the Affordable Housing Policy to explore various strategies specific to the demand while delivering on the objective. Given the centrality of improving the quality of life for the slum dwellers, the overall approach should focus on minimizing the social cost of relocation. In-situ slum redevelopment ensures the livelihoods of slum dwellers are not disrupted long term. Additionally, ex-situ

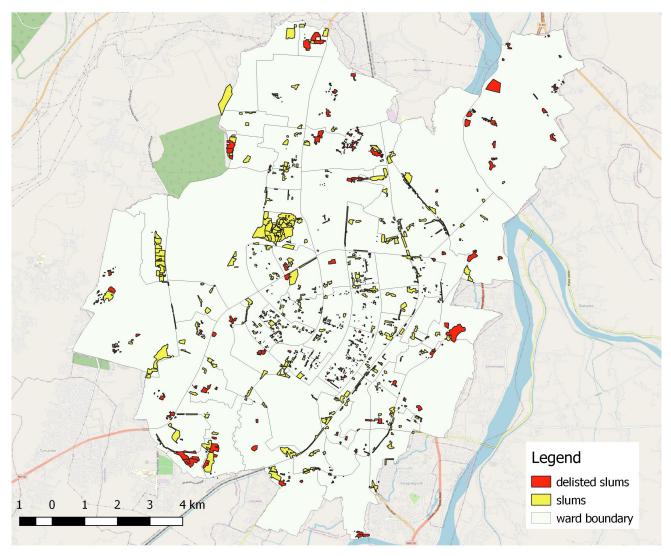


Figure 13: Delisted slums in BMC area

redevelopments result in peripheralisation disrupting livelihood linkages and ending up creating a stock of unoccupied houses, defeating the purpose of ensuring affordable housing for all.

The strategy laid out in this document focuses on addressing existing slums by maximising in situ slum upgradation and redevelopment, minimising relocation (slum freeing), and preventing the creation of slums (slum proofing) aligning with the government's vision of Odisha. The following steps detail the approach to the strategy:

STEP 1: IDENTIFICATION OF CITY-WISE NON-UPGRADED SLUMS

Slum upgradation under JAGA Mission is already being implemented in the slums under the jurisdiction of the Bhubaneswar Municipal Corporation, and about 115 slums have already been upgraded and delisted till November 2021.

Hence, the slums that have not been upgraded within the city limits should be identified as a first step.

STEP 2: CONDUCT A TENABILITY ASSESSMENT OF THE SLUMS

A tenability assessment should be carried out to identify the slums on tenable and untenable land parcels. The tenable land is the land or site which is suitable for habitation and hence could be taken up for in-situ slum upgradation or slum redevelopment whereas, the un-tenable land is the land that is environmentally hazardous or the one which is not suitable for inhabitation and will necessitate, the relocation of the slum dwellers to a more habitable place. The untenable parcels will be further unpacked for strategizing in step 4.

- 1. Tenable category: means the settlement as decided by the Committee, where the existence of human habitation does not entail undue risk to the safety or health or life of the residents or habitation or such sites are not considered contrary to the public interest or the land is not required for any public or development purpose (LR Act, 2017).
- 2. Untenable settlements: means such areas where the existence of human habitation entailsundue risk to the safety or health or life of the inhabitants themselves or wherethe Committee considers habitation on such areas not to be in the public interest

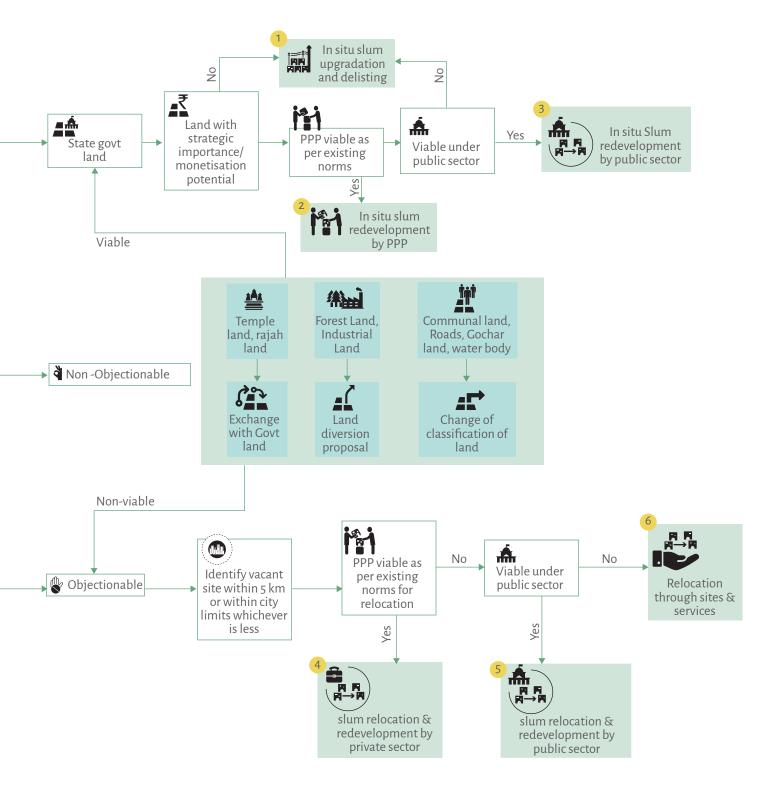
IDENTIFY CITY-WISE NON UPGRADED SLUMS

Conduct tenability assessment of the ____slums

Figure 14: Strategy mapping for different Affordable Housing Models

STEP 3: FORMULATE STRATEGIES FOR SLUMS LOCATED ON STATE GOVERNMENT LAND:

If the slum is located on tenable land owned by the state government, then the slum can be taken up under Model 1-slum upgradation and delisting. However, if the slum is located on a land parcel having high land value and



the government wants to monetise the land, then the feasibility of Model $2 - \ln$ situ redevelopment through PPP can be assessed. The technical and financial viability and feasibility of the project should be evaluated based on the criteria as per the Policy for Housing for All in Urban Areas Odisha 2015. If it is technically and financially feasible, then the project can be taken up under PPP. The private players' profitability should be

assessed by calculating the required plot area essential for accommodating the HHs as prescribed density and no. of DU needed to be built at the developer site to earn a minimum benchmark profit. Further, the project's feasibility should also be determined by assessing the demand of the HIG/ MIG units or commercial units required to build for cross-subsidising the EWS/LIG units. The project could be feasible under PPP only if both the above said criteria are fulfilled.

However, if PPP is not feasible, then the feasibility of Model 3 - In-situ redevelopment under the public sector can be assessed. A cost-benefit analysis can be taken up to see the investment requirement for Model 3 - In-situ redevelopment under the public sector and Model 1- slum upgradation and delisting and the return from the project, along with the O&M for the future. Depending upon the assessment, it can either be taken up for in situ redevelopment or should be taken up under slum upgradation.

Model 1: In-situ slum upgradation and delisting

For slums situated on land owned by the state government, the strategy of slum upgradation and delisting under JAGA Mission can be taken up. The SOP for slum upgradation and Delisting has been extended to all ULBs, including the Municipal Corporations. The Bhubaneswar Municipal Corporation has already delisted 115 slums within the city limits and transformed them into Biju Adarsh Colonies. For slum upgradation and delisting the access to primary infrastructure specifically i) water supply, ii) paver block roads, iii) pucca storm water drainage, iv) streetlights, v) individual household toilets (IHHL), vi) in-house electricity, vii) Parichaya⁴ (Micro activity centre) viii) Open space development and ix) Children's play areas should be taken up as per the SOP.

- Role of State: The state's role is vital in this programme. In addition to developing policies/ protocols /SOPs for slum upgradation and delisting, the state needs to guide convergence of various national and state government initiatives like AMRUT, BASUDHA, SBM, PMAY- AWAAS, UNNATI, and UWEI/MUKTA enabling the comprehensive transformation of poor urban neighbourhoods.
- Role of BMC: The role of the BMC is to identify the slums within its jurisdiction, undertake tenability analysis, and facilitate slum upgradation. The concerned Ward Officer is the designated Nodal Officer, representing BMC, for the process of slum upgradation and slum delisting in its jurisdiction. The Ward Officer is also responsible for undertaking participatory infrastructure need assessment for each slum and identifying gaps. The AE/JE of BMC is responsible for preparing the project proposal and awarding the work to the SDA/SHG, as the case may be.
- Role of SDA: The SDA/SHG represents the community. They support the concerned Ward Officer in identifying the infrastructure gaps and are also the Implementing Partners/ Supervising Partners for the upgradation work.

Model2: In situ slum redevelopment in partnership with the private sector

In line with the policy's objective to enable publicprivate partnerships for affordable housing and leveraging government land for affordable housing development, this model sets up a mechanism for Project Development Agency (PDA)s to partner with private developers aiming at increasing the supply of affordable housing.

Role of State: The state government is responsible for assessing the demand for Affordable Housing (AH) units. To achieve this, State Government is responsible for allotting land to PDAs, on a free of cost and freehold basis, for taking up the development of affordable housing on the PPP model. The state government is also responsible for paying the concession fee out of the State Housing Fund to the private developer. Other than that, several exemptions like exemption from sanction fee of building plan sanctioning authorities, exemption from payment of external/peripheral development charges of Urban Local Bodies, etc. In addition, exemption from keeping security deposits by building plan approval agenciesis mandated by the state.

Role of BMC/PDA: In this case, the land for the project has tobe divided into two parts, i.e., Affordable Housing Area (AHA) & Developer Area (DA). The Developer Area is be given by PDA to the private developer on a freehold basis, as per the terms and conditions of the Concession Agreement. The ownership of land reserved for the Affordable Housing Area remains with PDA. The affordable housing units, neighbourhood shopping units, and community areas developed by an Affordable Housing Area developer are handed over to PDA forfurther allotment and management. The PDAs & BMC advocate for new Affordable Housing Schemes and facilitate access to Housing MicroFinance to enable beneficiaries to pay for the house.While formulating the project, planning and implementing authorities should also decide the area of released land given to the private developers. In some cases, the area of the slum may be more than what is required for rehabilitating all eligible slum dwellers, plus a free sale component for cross-subsidizing the project. In such cases, project planning authorities should give only the necessary extent of land to private developers, while the remaining land may be utilised for rehabilitating slums dwellers living in other slums or for creating housing stock enabling slum proofing.

⁴ http://www.urbanodisha.gov.in/pdf/SOP-Slum-Upgradation.pdf



• Role of Private Sector: The private sector is responsible for the construction of Affordable Housing Units along with the neighbourhood shopping and community facilities in the Affordable Housing Area as per design specifications and building norms. The private sector will be required to hand over affordable housing units to the Project Development Authority free of cost. The private developer is required to quote a concession fee for the project as per bidding criteria upfront. The private developer utilises the Development Area for taking up housing and commercial projects, subject to the provision of Planning & Building Standard Regulations in force.

Model 3: In situ slum redevelopment by public sector

The Project Development Agency may take up In-situ Slum Redevelopment directly if PPP is not feasible. For such redevelopment, PDA may engage State/ Central Public Sector Enterprise (PSEs) as executing agencies, with approval of Odisha Urban Housing Mission, applying the same norms as Model 2.

- Role of State: The state government is responsible for assessing the demand for Affordable Housing (AH) units. To achieve the same, State Government is responsible for allotting land to PDAs on a free of cost and freehold basis. Other than that, several exemptions like exemption from sanction fee of building plan sanctioning authorities, exemption from payment of external/peripheral development charges of Urban Local Bodies, etc. In addition, exemption from keeping security deposits by building plan approval agencies is mandated by the state.
- Role of BMC/PDA: In this case, Affordable Housing Area can extend from 65percent to 100 percent depending upon the availability of funding from State Government sources or any other project. The PDAs & BMC advocate for new Affordable Housing Schemes and facilitate access to Housing Micro Finance to enable beneficiaries to pay for the house.

STEP 4: FORMULATE STRATEGIES FOR SLUMS ON OBJECTIONABLE LANDS:

The slums located on untenable land can be further divided into objectionable and non-objectionable land. The slums located on the objectionable category of land can be directly taken up for relocation within 5km or within the city limit, whichever is less. However, the project should be evaluated under Model 4 -Relocation and rehabilitation through PPP first. All such projects should be analysed to examine the financial and technical viability on a PPP basis using land as a resource and other benefits like additional FSI/FAR, TDR, etc., along with other incentives at the state or ULB level. The profitability of the private players should be evaluated. It can be done by calculating the required plot area essential for accommodating the HHs as prescribed density and no. of DU required to be built at the developer site to earn minimum benchmark profit.

Additionally, the project's feasibility should also be determined by assessing the balance between the demand and supply of the housing stock, thereby minimising vacant housing stocks. The demand analysis of the HIG/ MIG units or the commercial units required to build for cross subsidising the EWS/LIG units should be carried out. Even if there is a possibility of the private sector earning a considerable amount of profit if the area does not demand many HIG/ MIG units, the PPP model does not remain feasible, and the public housing projects are advised to be developed by the government without the involvement of the private players.

If the PPP is not viable, affordable housing under Model 5 - Relocation and rehabilitation by the public sector should be evaluated. If both approaches are not feasible, then BMC should go for Model 6: Relocation through sites and services.

Model 4: Relocation and rehabilitation through PPP

Under this model, the project will be eligible for Central Assistance if at least 35percent of the houses in the project area for the EWS category and a single project has at least 250 houses. Central Assistance at Rs.1.5 Lakh per EWS house would be available for all EWS houses in such projects.

- Non Objectionable category: It may include but is not limited to; forest land, private land (mostly local Rajah's land), temple land, or any other land that may be converted to tenable by land exchange/negotiation or conversion.
- 2. Objectionable: It may include but is limited to railway land, defence land, environmentally hazardous land, land near waste dumping sites, etc., or any other land where the existence of human habitation entails undue risk to the safety or health or life of the inhabitants themselves or where the Committee considers habitation on such areas not to be in the public interest. By definition, small settlements with less than 20 HHs and do not qualify as slums can also be included in this category.

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- Role of state: The States/UTs are responsible for deciding an upper ceiling on the sale price of EWS houses in rupees per square meter of carpet area in such projects to make them affordable and accessible to the intended beneficiaries. For that purpose, the state can extend other concessions such as their state subsidy, land at affordable cost, stamp duty exemption, etc. State Government Subsidies available under any other government scheme can be dovetailed to the extent possible. The state-owned land parcel identified for relocation is provided to PDA by the state government on a freehold basis without any cost.
- Role of BMC/PDA: The BMC/PDA identifies the relocation sites close to the original slum area from where the dwellers are being relocated. In this case, the land for the project has to be divided into two parts, i.e., Affordable Housing Area (AHA) & Developer Area (DA). PDA gives the Developer Area to the private developer on a freehold basis, as per the terms and conditions of the Concession Agreement. The ownership of land reserved for the Affordable Housing Area remains with PDA. The neighbourhood shopping units and community areas developed by a developer in Affordable Housing Area are handed over to PDA for further allotment and management.The PDAs &BMC advocate for new Affordable Housing Schemes and facilitate access to Housing Micro Finance to enable beneficiaries to pay for the house. While formulating the project, planning and implementing authorities should also decide the area of slum land given to the private developers. In some cases, the area of the slum may be more than what is required for rehabilitating all eligible slum dwellers, plus a free sale component for cross subsidizing the project. In such cases, project planning authorities should give only the required slum land to private developers. The remaining slum land should be utilised for rehabilitating slums dwellers living in other slums or for housing for other urban poor.
- Role of land-owning agency: The original site freed from the encroachment of the slum may be to theoriginal land-owning agency for the development of facilities and amenities for a public purpose (whether Central / State government or other agencies such asAirports, Railways, etc.). In such cases, the land-owning agency contributes an amount on a per dwelling unit basis for the total numbers ofbeneficiaries surveyed and found to be eligible in the concerned slum area bythe PDA. The land-owning agencies' contribution shall be equivalent tothe difference between the

cost of construction of a EWS house of standard size and contribution to be paid by the entitled beneficiary or as decided by the State Government. Subsidies available under any other government scheme can bedovetailed to the extent possible.

of Private Sector: The private sectoris Role responsible for constructing Affordable Housing Units along with the neighbourhood shopping and community facilities in the Affordable Housing Area, which are handed over to the Project Development Authority free of all costs. The private developer will be required to quote concession fees for the project as per bidding criteria upfront. The private developer utilises theDeveloper Area for taking up housing and commercial projects, subject tothe provision of Planning & Building Standard Regulations in force. The project developers would also be responsible for providing transit accommodation to the eligible slum dwellers during the construction period.

Model 5: Relocation and rehabilitation by public sector

The government can take up the relocation and rehabilitation to provide affordable housing. For such redevelopment, PDA may engage State/ Central Public Sector Enterprise (PSEs) as executing agencies, with approval of Odisha Housing Mission, applying the same norms as Model 4.

- **Role of state:** The States/UTs are responsible for deciding on an upper ceiling on the sale price of EWS houses in rupees per square meter of carpet area in such projects to make them affordable and accessible to the intended beneficiaries. For that purpose, the state can extend other concessions such as their state subsidy, land at affordable cost, stamp duty exemption, etc. State Government subsidies available under any other government scheme can be dovetailed to the extent possible. The site identified for relocation is provided to the PDA on a freehold basis without any cost.
- Role of BMC/PDA: The BMC/PDA identifies the relocation sites close to the original slum area from where the dwellers are being relocated. In this case, Affordable Housing Area can extend from 65 percent to 100percent depending upon the availability of funding from State Government sources or any otherproject. The PDAs & BMC advocate for new Affordable Housing Schemes and facilitate access to Housing Micro Finance to enable beneficiaries to pay for the house. The project developers would also be responsible for providing transit accommodation to the eligible slum dwellers during the construction period.



• Role of land-owning agency: The original site freed from the encroachment of the slum may be to the original land-owning agency for the development of facilities and amenities for a public purpose (whether Central / State government or other agencies such as Airports, Railways, etc.). In such cases, the land-owning agency contributes an amount on a per dwelling unit basis for the total numbers ofbeneficiaries surveyed and found to be eligible in the concerned slum area bythe PDA. The landowning agencies' contribution shall be equivalent to the difference between the cost of construction of an EWS house of standard size and contribution to be paid by the entitled beneficiary or as decided by the State Government. Subsidies available under any other government scheme can be dovetailed to the extent possible.

Model 6: Relocation through sites and services

The development of the new habitat can be taken up by the government as plotted mini-townships, accounting for key primary infrastructure facilities including individual houses with toilets connected to community septic tanks, well designed paved streets, piped water supply (at household level), LED streetlights, household level electricity connection, storm water drainage among others but also promoting the creation of necessary social infrastructure such as "Parichaya' micro-activity centres, as may be applicable following the guiding design principles as per the SOP for New Liveable Habitat. Moreover, the housing can be built in convergence with the public housing subsidy programmes available in the state.

- · Role of State: The state's role is vital in this programme. In addition to developing policies/ protocols /SOPs for slum upgradation and delisting, the state needs to guide convergence of various national and state government initiatives like AMRUT, BASUDHA, SBM, PMAY- AWAAS, UNNATI, and UWEI/MUKTA enabling the comprehensive transformation of urban poor neighbourhoods.
- Role of BMC: The role of BMC is to identify the slums within its jurisdiction and vacant land entailing the following criteria:
 - Tenable land

- Land belonging to the BMC or any statutory Board or Corporation or any Department of the Odisha Government.
- Land with existing trunk infrastructure
- Landmarked as a residential zone
- Land in the vicinity of already existing residential areas

BMC is responsible for extending basic civic and social infrastructure as laid out in the SOPs, facilitating the process of relocation of the slum HHs to the new liveable habitat, issuing land rights certificates, and linking HHs with available housing subsidies. In addition, BMC will be responsible for providing a detailed layout of the relocation site according to the prevailing building norms.

Role of SDA: The SDA/SHG representing the • community will be responsible for supporting BMC in the process of obtaining consent for relocation. SDA/SHGs may also support individual HHs tolink with available subsidies and facilitate the construction of houses. Further, the community is also responsible for supporting BMC in participatory design layout processes.

STEP 5: FORMULATE STRATEGIES FOR SLUMS ON NON-OBJECTIONABLE LANDS:

The slums located on non-objectionable land can be viable or non-viable for in situ slum upgradation. For example, there are slums located on land awarded in the name of erstwhile royal families, land belonging to the forest department, temple, defence, railway, Industries, private owners, etc. The state government can approach the individual land-owning authorities and attempt to settle the land for in situ slum upgradation or redevelopment through negotiation. For example, the land-owning agencies can be offered a different parcel of government land elsewhere in exchange for the existing land. If the negotiation does not succeed, then Model 4, Model 5, or Model 6 can be taken depending on the feasibility. However, if the land-owning agency agrees to exchange the land with alternate government vacant land, the Model 1, Model 2, or Model 3 can be taken up as per the feasibility.

Affordable Housing Models	Opportunities	Challenges
Model 1: In-situ slum upgradation and delisting	 In situ development keeps social fabric and livelihood linkages intact. Extensive community involvement, ensuring community ownership Opportunity to converge with ongoing national and state schemes, minimising resource requirement Addresses urban issues by containing environmental degradation, improving sanitation, lowering violence, and attracting investment. Delisted slums can become part of the city planning framework and are included in the city development programme. 	Coordination among multiple agencies for the construction of infrastructure.
Model 2: In situ slum redevelopment in partnership with the private sector	 Resource mobilisation by the private sector Minimise the burden of investment on the public sector Scope for land monetisation Prevents peripheralization of slums 	 Community ownership critical for success Multi-storeyed developments are often a less preferred choice. Lack of design innovation and the burden of maintaining common areas can potentially convert such developments into vertical slums.
Model 3: In situ slum redevelopment by public sector	 Multiple slums can be accommodated Scope for land monetisation Prevents peripheralization of slums 	 A significant upfront investment is required. Community ownership critical for success Multi-storeyed developments are often a less preferred choice. Lack of design innovation and the burden of maintaining common areas can potentially convert such developments into vertical slums.
Model 4: Relocation and rehabilitation through ppp	 Resource mobilisation by the private sector Minimise the burden of investment on the public sector Scope for land monetisation for the freed land Multiple slums can be accommodated. Additional stock can be created for slum proofing. 	 Possibility of peripheralization, without adequate trunk infrastructure Disruption in livelihood linkages Community ownership critical for success and en masse relocation Possibility of gentrification resulting in vacant housing Multi-storeyed developments are often a less preferred choice. Possibility to disrupt social fabric if multiple slums accommodated, necessitating community engagement
Model 5: Relocation and rehabilitation by public sector	 Scope for land monetisation for the freed land Multiple slums can be accommodated. Additional stock can be created for slum proofing. 	 Significant upfront public investment is required. Possibility of peripheralization, without adequate trunk infrastructure Disruption in livelihood linkages Community ownership critical for success and en masse relocation Possibility of gentrification resulting in vacant housing Multistoried developments are often a less preferred choice. Possibility to disrupt social fabric if multiple slums accommodated, necessitating community engagement

Table 5: Opportunities and challenges of the affordable housing models



Affordable Housing Models	Opportunities	Challenges
Model 6: Relocation through sites and services	 Extensive community involvement, ensuring community consent and ownership Communities may choose from available site options (at least two) and engage in participatory design layout. Self-built houses with the possibility for incremental improvements. Program funding through convergence Enmasse relocation ensures maintenance of the social fabric. Relocation sites adjacent to existing residential areas ensure minimum disruption of livelihood linkages and access to trunk infrastructure. Scope for land monetisation for the freed land 	 Possibility to disrupt social fabric if multiple slums accommodated, necessitating community engagement If relocation site unavailable in close vicinity, the possibility of peripheralization, without adequate trunk infrastructure.

6 CONCLUSION

Private sector engagement and negotiation are contingent upon the profitability of the project and the capacity of the development agencies to have adequate information to negotiate a deal. Further such partnerships are also driven by macroeconomic cues of the city's real-estate market under consideration. Hence any policy devised by the centre or state government requires to be localised based on multiple factors beyond land prices. In this context, having low-cost, high-impact strategies beyond private sector participation is critical for the success

of affordable housing policies. While Bhubaneswar Development Authority's current efforts are well designed to deliver on the identified projects in the area, creating impact at scale and tackling slums in the city necessitated formulating a new strategy as laid out in this document. Given the importance of the BDA area in Odisha, a comprehensive approach to slum-free and slum-proof cities will further embed the New Urban Agenda (NUA) objectives and develop sustainable and inclusive cities.





The Ministry of Housing and Urban Affairs, Government of India and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH India, are jointly implementing the Sustainable Urban Development-Smart Cities (SUD-SC) project on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ) as part of the Indo-German Development Cooperation. The project supports the national ministry and the state governments (Odisha, Tamil Nadu, and Kerala) in the policy formulation on housing for all, basic services, planning framework, and monitoring of the Sustainable Development Goal (SDG) number 11. It also supports the three select Smart Cities (Bhubaneswar, Coimbatore, and Kochi) in implementing concepts of integrated spatial planning approaches.

The Scaling City Institutions for India: Land, Planning, and Housing (SCI-FI: LPH)programme, is a multidisciplinary research, outreach and policy support initiative. It aims to better understand the intersection of governance and scale in the Indian urbanising landscape with sector specific social and economic characteristics. The SCI-FI: LPH initiative envisages to inform multiple stakeholders, including the three tiers of the government, on demand-driven, sustainable, alternative, and scalable models for delivering and operationalizing housing, basic services, and property rights for the urban poor. The programme is primarily supported by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) India. The SCI-FI programme is nested at the Centre for Policy Research (CPR) since 2013.

