



HAPPY CITIES SUMMIT
Amaravati - 2019

AMARAVATI 2019

DESIGN CHALLENGE

SMALL SCALE RESIDENTIAL DEVELOPMENT SCENARIOS





AMARAVATI DESIGN CHALLENGE '19

SMALL SCALE RESIDENTIAL DEVELOPMENT SCENARIOS

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1. THE AMARAVATI DESIGN CHALLENGE '19

Amaravati, the new capital city of Andhra Pradesh is the most anticipated ongoing urban development project in the world. It is setting precedents and benchmarks for greenfield city building. Amaravati, since its inception has adopted an inclusive, participatory and transparent approach to planning and design of the city.

The land pooling scheme has emerged as an innovative mechanism to procure land in a democratic framework. Also, at various stages of planning and design, various stakeholders have been continuously engaged. In time with this endeavour, APCRDA is initiating the “ Amaravati Design Challenge 2019 “, as a way to capture exciting ideas and concepts from Students of Architecture, Design, Planning and Urbanism to add value to the development of Amaravati.

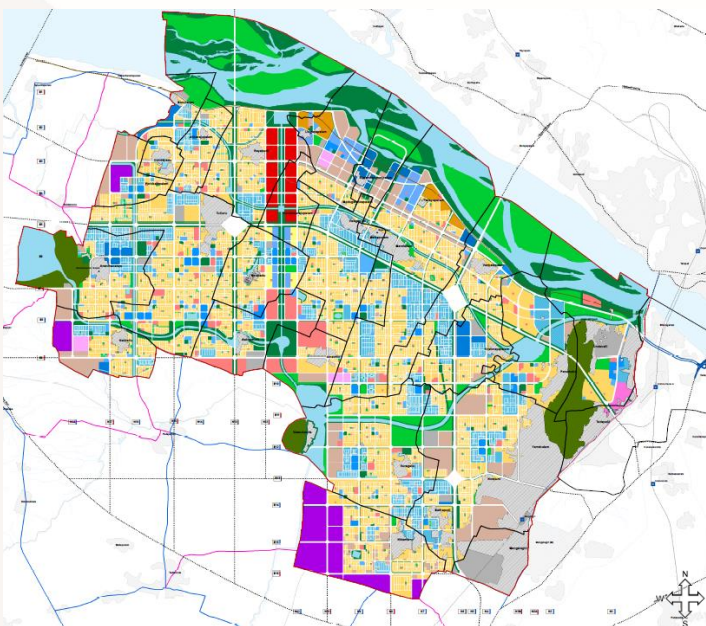


Aerial view of Amaravati Capital city

2. INTRODUCTION TO AMARAVATI

2.1 MASTER PLAN

Amaravati capital city is comprehensively planned on the southern banks of the river Krishna covering an area of approximately 217 sq.km with world-class infrastructure that would represent people's vision and aspiration of a 'happy', 'liveable' and 'sustainable' city'. The ideology for the new city as the PEOPLE'S CAPITAL of Andhra Pradesh is to create a vibrant, inclusive, modern city for 3.5 million people by 2050; a symbol of pride & achievement for people of Andhra Pradesh. The Master Plan for the Capital City has been prepared in February, 2016 after public notification and clear consideration of all the objections raised, to synthesize the best features of contemporary urban planning, sustainability, technology, and effective governance to create an inclusive, highly liveable world-class urban ecosystem, providing ideal work-home-play relationship in the Indian context.



Proposed Master plan – Amaravati Capital City, Andhra Pradesh

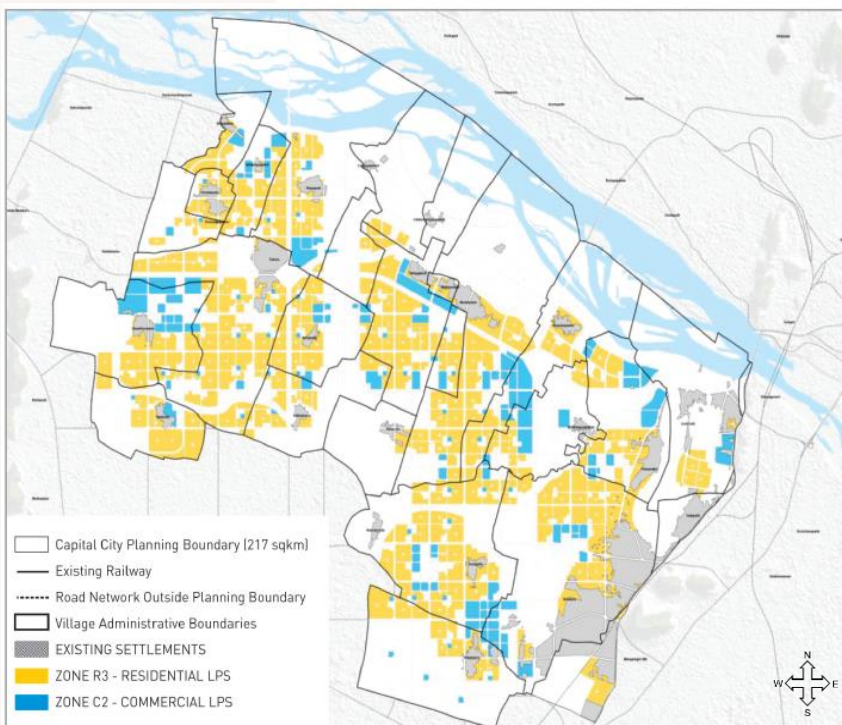
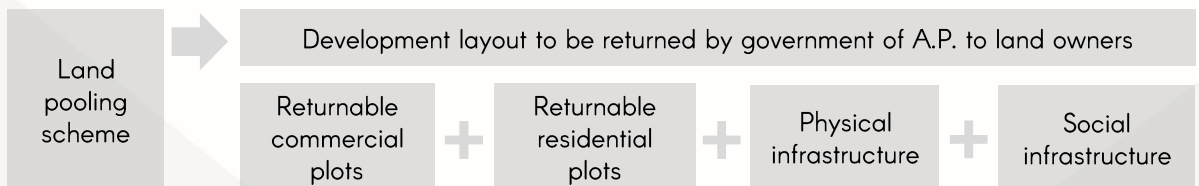
The New Capital of Andhra Pradesh is envisioned to be the pioneer Smart City of India. It aims to provide its citizens a World-Class environment for which six development goals and strategies like world-class infrastructure, jobs and homes for all, green and clean, quality living, identity and heritage, efficient resource management have been formulated.

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2.2 LAND POOLING SCHEME

Land pooling scheme under the Section - 43 of Andhra Pradesh Capital Region Development Authority Act, 2014 was taken up as a participatory mechanism to procure lands in turn benefitting both the government and the citizens of the city. Under this scheme land parcels owned by individuals or group of owners were legally consolidated by transfer of ownership rights to the Authority, which later transferred the ownership of a part of urban land back to the landowners for undertaking development of such areas. The APCRDA initiated the process of registration of the returned plots in March 2017 and as on 31st March, 2018; 13,480 registrations have been completed covering 33,208 acres of land which include 59,014 returnable plots allotted to 23,903 landowners in 46 transparent electronic lotteries in 22 out of 24 villages. Infrastructure development is currently in progress in the LPS layouts and private residential development works would get initiated at the earliest.



31.60 % Total returnable land in capital city

05.71 % COMMERCIAL

100sq.m-4000sq.m in 25sq.m increments
> 4000sq.m in 50sq.m increments

25.90 % RESIDENTIAL

25sq.m - 4000sq.m in 25sq.m increments
> 4000sq.m in 50sq.m increments

Map showing Amaravati capital city LPS Returnable residential and commercial layouts



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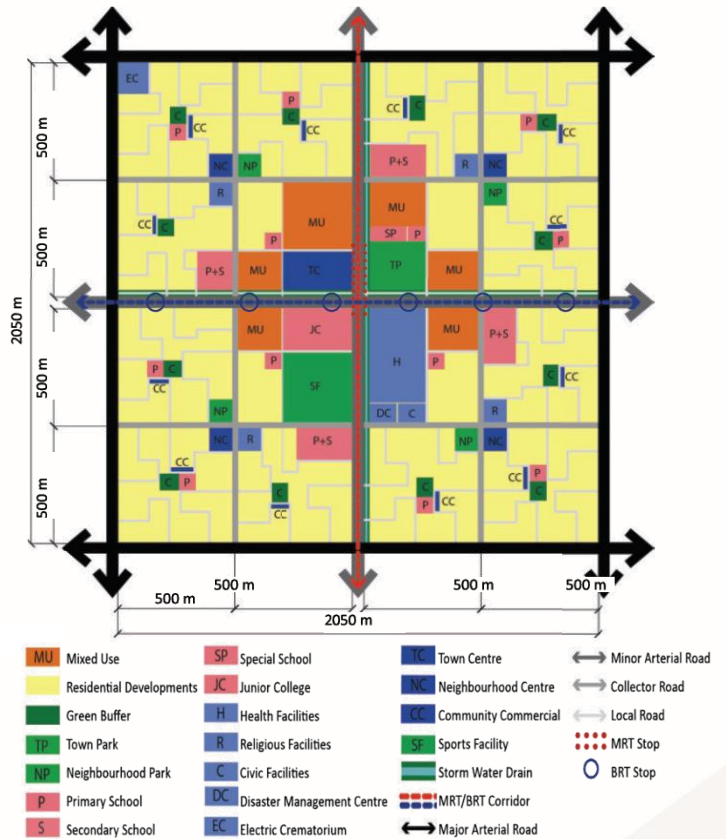
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The returnable residential plots fall under the category of R3 - Residential development in the masterplan i.e., medium to high density residential development. There are nearly 991 different plot sizes under the returnable residential plot category whose area ranges from 100 to 4000 sq.m and above. It is felt that the plots whose areas are comparatively low within the development are ignored and they lack professional guidance. The owners of such plots generally depend on the mason or a typical layout without hiring a professional for the job. This eventually leads to a loss of architectural language across the neighbourhoods. Hence, the proposal of a Design Challenge (Small-scale residential development scenarios) to approach this housing scenario distinctly with a fresh insights from students of Architecture/ Planning/ Urbanism/ Design.

It is suggested to design layouts for smaller plots of areas ranging between 100 to 210 sq.m which are 6607 in number and constitute to approximately about 20% of the overall plots under the returnable residential plots. The design challenge is an excellent platform for students who are actively willing to explore the various scenarios under the small-scale residential development and make their designs more accessible to the owners of the above mentioned plots. This would create a participatory approach to city-making and without ignoring the smaller residences which are an integral part of the overall masterplan. The design competition would be a platform, where a palette of design ideas could be evolved and the land owners of smaller plots too would have a huge database to chose a concept to suit their requirement. This way the students also get to see their design realized on site and a architectural cohesion is maintained on site.

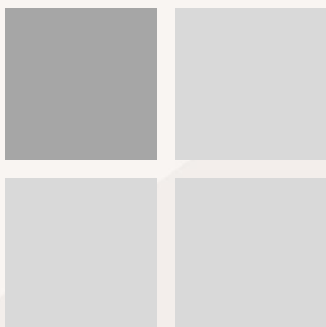
2.3 PLANNING CONCEPTS

Each of the neighbourhood is carefully planned to make the city walkable and accessible to various services and infrastructure. Each town is subdivided into neighbourhoods, communities and clusters bearing in mind their closest proximity to work creating a safe, healthy and happy lifestyle to its citizens.

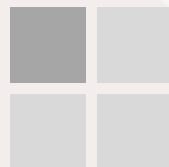


Concept development of neighbourhood

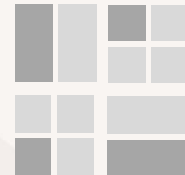
	Neighbourhood	Community	Cluster
Size	1 km x 1km	½ km x ½ km	Varies
Area (Acres)	250	62.5	15-30
Population	25,000	6,000	1500 – 3000
Households	7,000	1,700	300 – 800



Four neighbourhoods comprise of a town



Four communities comprise of a neighbourhood



Two or Four clusters comprise of a community

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EXAMPLE - NELAPADU



Maps representing the location and layout of Nelapadu



327.43 acres
RESIDENTIAL



65.16 acres
COMMERCIAL



94.15 acres
OPEN SPACES



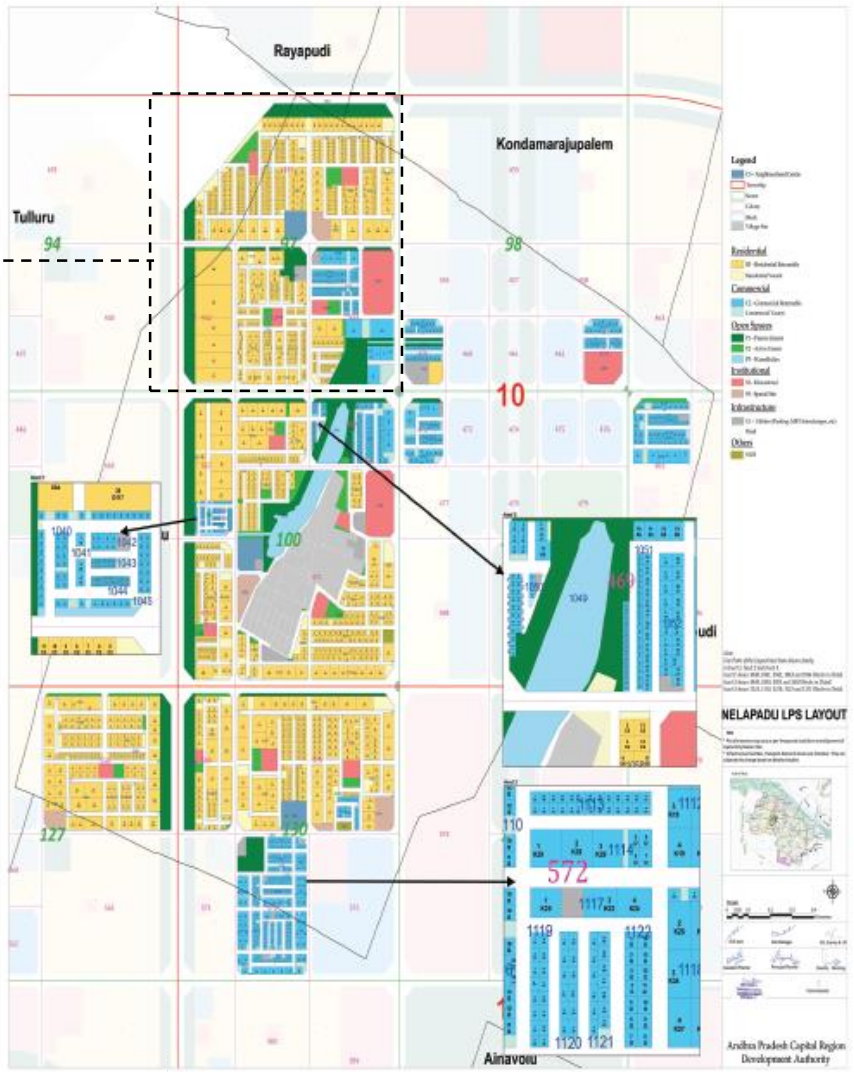
40.51 acres
FACILITIES



303.29 acres
UTILITIES



1.04 acres
Salable Letter Of Intent (SLO)











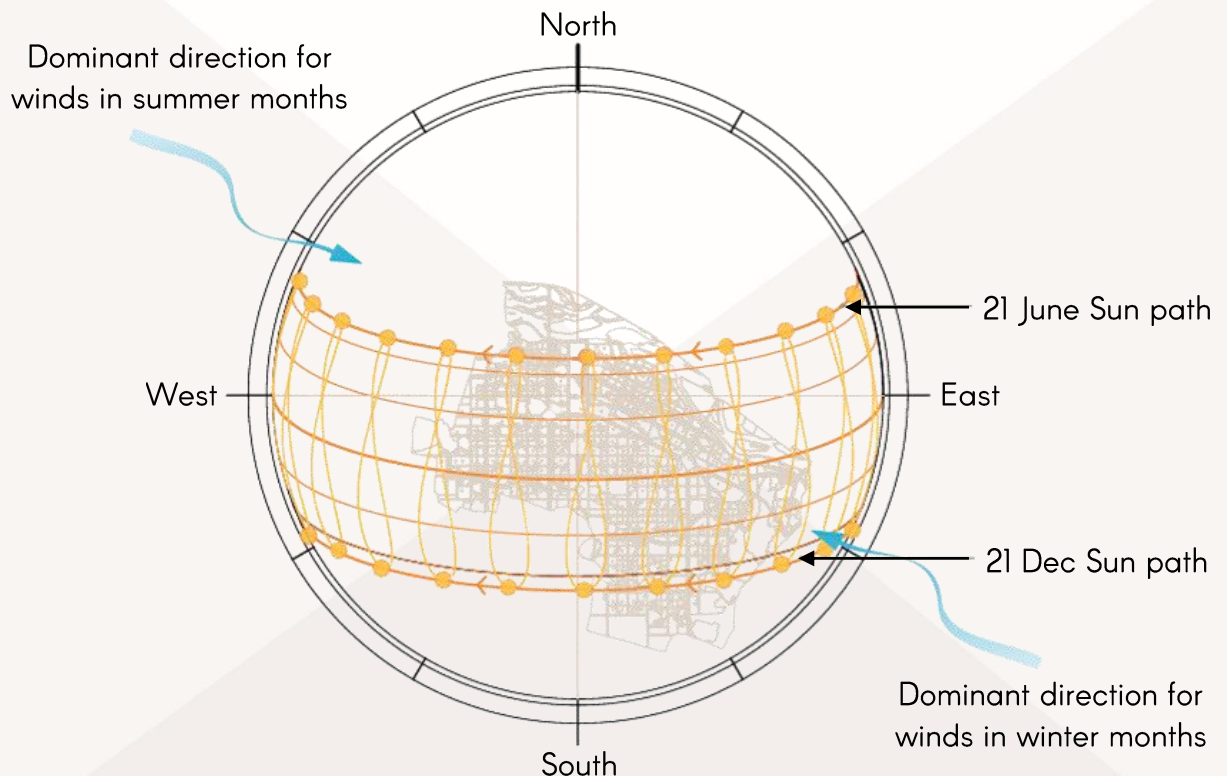
	A (120 - 250 sq.yds)		G (30 - 60 sq.yds)
	B (250 - 450 sq.yds)		H (60 - 210 sq.yds)
	C (450 - 1440 sq.yds)		I (210 - 300 sq.yds)
	D (1440 - 6000 sq.yds)		J (300 - 450 sq.yds)
	E (> 6000 sq.yds)		K (450 - 1320 sq.yds)

Nelapadu was one of the first villages which was covered under the Land pooling Scheme. Each of these layouts have a heterogeneous mix of plot sizes, which are indicated in the map adjacent.

Plan representing a neighbourhood with the plot distribution

2.4 CLIMATE AND TOPOGRAPHY

-  Average temperature : 27.3 °C (Min 15 °C and Maximum of 48 °C)
-  Average rainfall (808 mm)
-  Ground water level (Minimum 2 m to Maximum 5 m)
-  Humidity (Above 50%)
-  Wind speed (23 – 27 kmph)
-  Soil type : Red gravel, black cotton, sandy alluvial, sand clay loams and red loams
-  Flora – Ficus religiosa (Ravi), Ficus mollis (Pittamarri), Ficus hispida (Atti), Ficus benghalensis (Marri), Delonix regia, (Gulmohar), Eucalyptus sps. (Jama oil), Dalbergia sissoo (Seesam), Cordia dichotoma (Bankanakkera)
-  Sun path and wind direction



3. COMPETITION BRIEF

3.1 INTENT OF THE COMPETITION

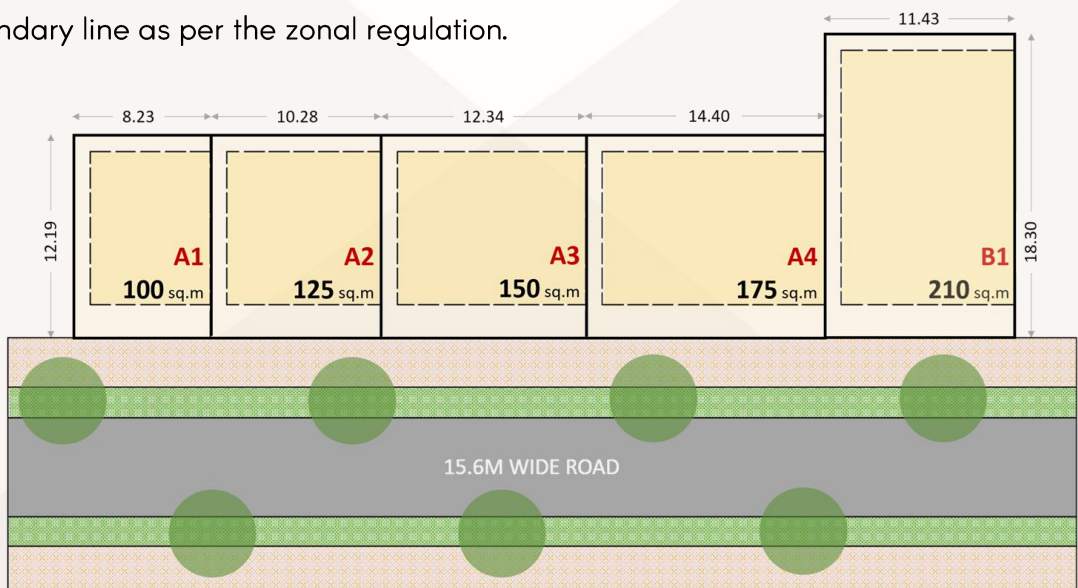
“ It is foreseen that most of the small-scale residential developments (100-210 sq. m plots which constitutes about 20% of the returnable plots) may happen beyond the purview of professional architects. Hence the idea is to come up with a palette of design possibilities, which stakeholders of the capital city may consult. ”

3.2 THE PROGRAMME – What you need to do?

The primary idea is to develop a design principle / concept for the 5 typologies of plots based on their areas. The residential plot sizes for the design competition comprise of A1, A2, A3, A4 and B1 which have an area of 100, 125, 150, 175 and 210 sq.m respectively, whose dimensions are indicated in the image below.

3.2.1 Plot size

The plot sizes for these smaller plots are as follows, A1 –8.23m x 12.19m; A2 – 10.28m x 12.19m; A3 –12.34m x 12.19m; A4 –14.40m x 12.19m; B1 – 11.43m x 18.30m which are indicated below. The setback lines are also indicated (dash lines) within the site boundary line as per the zonal regulation.



Drawing representing the 5 plot sizes to be considered for the competition, with an abutting road of 15.6m

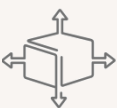
3.2.2 Zonal Regulations

Maximum Floor Space Index	2.00
Maximum No. of Floors	G+3
Permissible Ground coverage	70 %
Front Setback (meters)	2
Side Setback (meters)	1
Side Setback (meters)	0
Rear Setback (meters)	1
Maximum Building height (meters)	13
Maximum Floor to Floor height (meters)	
Ground floor	4.5
Other floors	3.6
Minimum floor to floor height (meters)	2.75
Parking requirement	1 stall per dwelling unit

3.2.3 Functional programme



Minimum dwelling unit size of **60** sq.m gross floor area



Minimum **spatial distribution** of dwelling unit may have Living room/Hall, Single bedroom, Bathroom, Kitchen and a balcony



Additional spaces (bedrooms, family rooms others) may be incorporated based on participant design ideology



Different **typologies** of residential development options could be explored like studios, family homes etc.



Strategy for **Incremental growth** of the building may be suggested.

3.3 KEY DESIGN CONSIDERATIONS - How you may go about it?

3.3.1 Happiness And Well-being

Amaravati being the people's capital aims at providing its citizens with the best of services, infrastructure and in turn promote their happiness and well-being. The participants are expected to have a holistic and innovative approach in designing the spaces through exploration of various possibilities, which could demonstrate a transformative impact on the well-being of these residents. The design schemes should adopt to principles like –



Promoting the health: It is suggested that the design principles focus on creating a resilience, against health risks by creating an active lifestyle for the residents, controlling the air and water quality, ensuring a better surveillance and security for the community etc.



Community – It is observed that the happiness and well-being is ensured when the human interactions and social connections are strengthened through design of diverse and active spaces.



Sustainable environment – It is expected to create lasting, healthy and resilient environments by encouraging sustainable lifestyles, using environmental friendly materials and construction techniques, design adhering to the climatic principles and respecting the ecological profile of the city.



Sense of belonging – It is expected that the design aims to instil people with a greater sense of attachment, ownership and pride of the place.

3.3.2 Contextual Approach



Natural landscape – It is expected to draw ideologies from the rich natural landscape like the agricultural background; Krishna river with its flowing waters and delta zones, which set a serene ecological profile for the city; the uplands which consist mostly of hill forests which stand out as religious areas across the city etc.

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Local culture, arts and crafts – It is expected to respect and draw inspiration from the distinct handicrafts like leather puppet making, Kondapalli wooden toy making, Kalamkari fabric work, Mangalagiri hand loom textile weaving, cultural heritage – classical and folk arts like Kuchipudi and Burrakatha which contribute to the uniqueness of the state.



Architectural Character – The vernacular architectural traditions of the region, usage of locally available materials like granite, lime stone and construction techniques responsive to the hot tropical climate of the region are to be adopted. The region is also famous for the several ancient monuments and heritage sites like the Undavalli caves, Amaravati stupa etc. from which design principles can be evolved.

3.3.3 Sustainability and Green building aspects

The design proposals should incorporate the principles of sustenance like

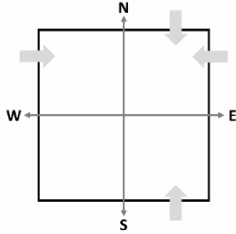


Effective use of small-scale ideas – Ideas which could contribute to an effective and healthy lifestyle by making smaller changes to the daily chores of the users by suggesting design interventions for waste management, solar power generation, microclimate management, recycling the waste water, rainwater harvesting. Example: Ideas to promote vegetable gardening in the setback area or terrace gardening, water retention techniques to ensure minimizing the surface run-off etc.

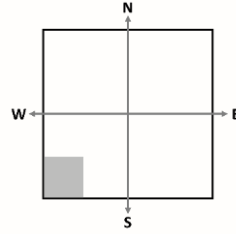


Rating systems – The building may be designed in a way to comply with the guidelines which may be considered from manuals like IGBC Green Homes, IGBC Green Affordable Housing Ratings, SVAGRIHA, GRIHA and Eco Niwas Samhita 2018..

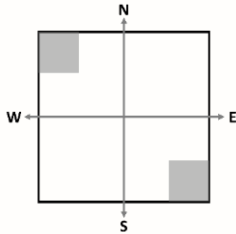
3.3.4 Vaastu Considerations



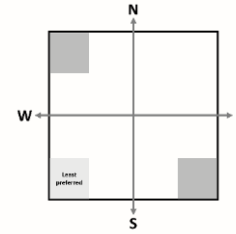
Entry / Exit (Plot & Building)
The directions which have an arrow may be considered



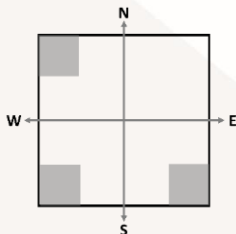
Master bedroom
SW direction may be preferred



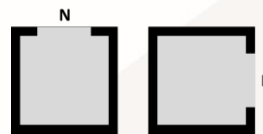
Kitchen
SE / NW corner are preferred with the cooking counter facing East



Toilets
NE to be avoided.
WC's and urinals should never face W / E



Staircase
NE to be avoided. It is preferred to enter the first flight facing either W / S and continue in clock wise direction.



Lift
Opening should face North or East

Balconies
No balconies should extend into the NE direction

"Local people / Stakeholders are particular about complying with basic Vastu concepts . Hence it is advisable to consider them "

3.4 SCOPE OF WORK



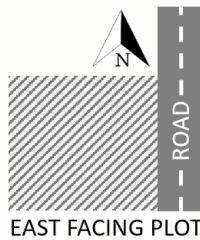
1. Concept

A common design ideology and a concept is to be developed which would be the guiding principle to approach the small-scale residential development. These principles would be applied to generate various permutations and combinations in the design development.



2. Variants

Choose any one of the Typology (Either A1 / A2 / A3 / A4/ B1) to demonstrate the design ideology or principles, and develop four variants for the same typology considering the four cardinal points north/south/west/east directions for the orientation of the plots.



3. Catalogue

Present a design catalogue to develop an exterior architectural expression for the residential development. The design catalogue could detail out a few elements like balconies, verandahs, terraces, colonnades, façade design, material palette, any other. The inspiration to all these elements are to be derived from the key considerations, and it is to be noted that the design catalogue would be providing a good optional database for the clients, directing them within the guidelines as per the proposal.

3.5 DELIVERABLES

1. Stage 1: Submission by 27th Jan '19

A Digital submission of one Pdf

- Submission format : A3 Size,
- Orientation : Portrait / Landscape
- Maximum no. of sheets: 10
- File size: Compilation in 1 pdf – max 25 mb
- Scale of drawings : plans/section/elevations (1:100) ;
Renders/sketches/views (no scale)

2. Stage 2: Submission by 12th Feb '19

(Shortlisted candidates will be intimated by 30th Jan '19, who would have to submit for Stage 2)

A Power point presentation

- Presentation time maximum : 10 minutes

3.6 EVALUATION CRITERIA

S N	Criteria	Weightage
1	Functionality and adherence to programme	10%
2	Innovativeness of design concept	25%
3	Flexibility and adaptability of the concept to generate variants/ catalogue	25%
4	Architectural Translation of the concept	25%
5	Graphical quality and coherence of the presentation	15%

4. TERMS OF THE COMPETITION

4.1 KEY DATES

This is a two stage competition

STAGE 1 Last Date for submission
27th January, 2019

STAGE 2 Presentation Finale
13th February, 2019

* Kindly note that any changes in the schedule would be declared on the website and no personal intimation would be made.

4.2 AWARDS



₹ **1,00,000** /-
(Rupees one
lakh only)



₹ **50,000** /-
(Rupees fifty
thousand only)



₹ **25,000** /-
(Rupees twenty
five thousand only)



₹ **10,000** /-
(Rupees ten
thousand only)
3 special prizes



Participation certificate
would be rewarded to
all the participants of
the competition



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4.3 TERMS AND CONDITIONS

1. Eligibility Criteria – All the participants should be bonafide Master's / Bachelor's students of Architecture (Colleges recognised by Council of architecture) and students of Design , Planning
2. Participation – Individuals or groups not exceeding a group size of 4 are allowed to take part in the competition. The participants may or may not belong to the same college. The students in each group need not belong to the same semester.
3. Final Jury – The shortlisted participants once declared on 28th Jan, 2019 will have to present their designs on 13th February,2019 as a part of the Happy Cities Summit 2019 hosted at Vijayawada, Andhra Pradesh. The travel charges are to be borne by the participant; however accommodation would be provided.
4. Copyrights and Right of ownership – APCRDA holds rights to publish the designs of the participants on their website, social media platforms and exhibitions, once submitted. The objective of making selected proposal public, as a catalogue, is to make them available to a section of residents who otherwise do not have access to technical/ professional help.
5. For further information on the progress work on site at the capital city the attached web link may be followed :
<https://crda.ap.gov.in/APCRDA/Userinterface/HTML/videos.aspx>

4.4 CONTACT US

 designchallenge@apcrda.org