

HAPPY CITY

AMARAVATI

DRAFT REPORT

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CLIENT :

Happy City Lab Inc.
Vancouver, Canada

CONSULTANT:

Prof. Dr. Tina Pujara
Research Group: Happiness by Design
Department of Architecture and Planning
Indian Institute of Technology (IIT) Roorkee,
Uttarakhand, India

A1: Review of Housing Guidelines & Rosella Design

A2: Cultural Characteristics and the influence of Vastu



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The Team
Principal Investigator
Prof. Dr. Tina Pujara
IIT Roorkee.

PhD Scholar *Sayna Anand*, IIT Roorkee
Urban Designer, Architect

PhD Scholar *Iqra Rafiq*, IIT Roorkee
Architect

PhD Scholar *Ashesh Sarkar*, IIT Roorkee
Urban Planner, Architect



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1. Review Housing guidelines (R3 Regulations) and codes and Rosella's architectural plans.

Deliverable:

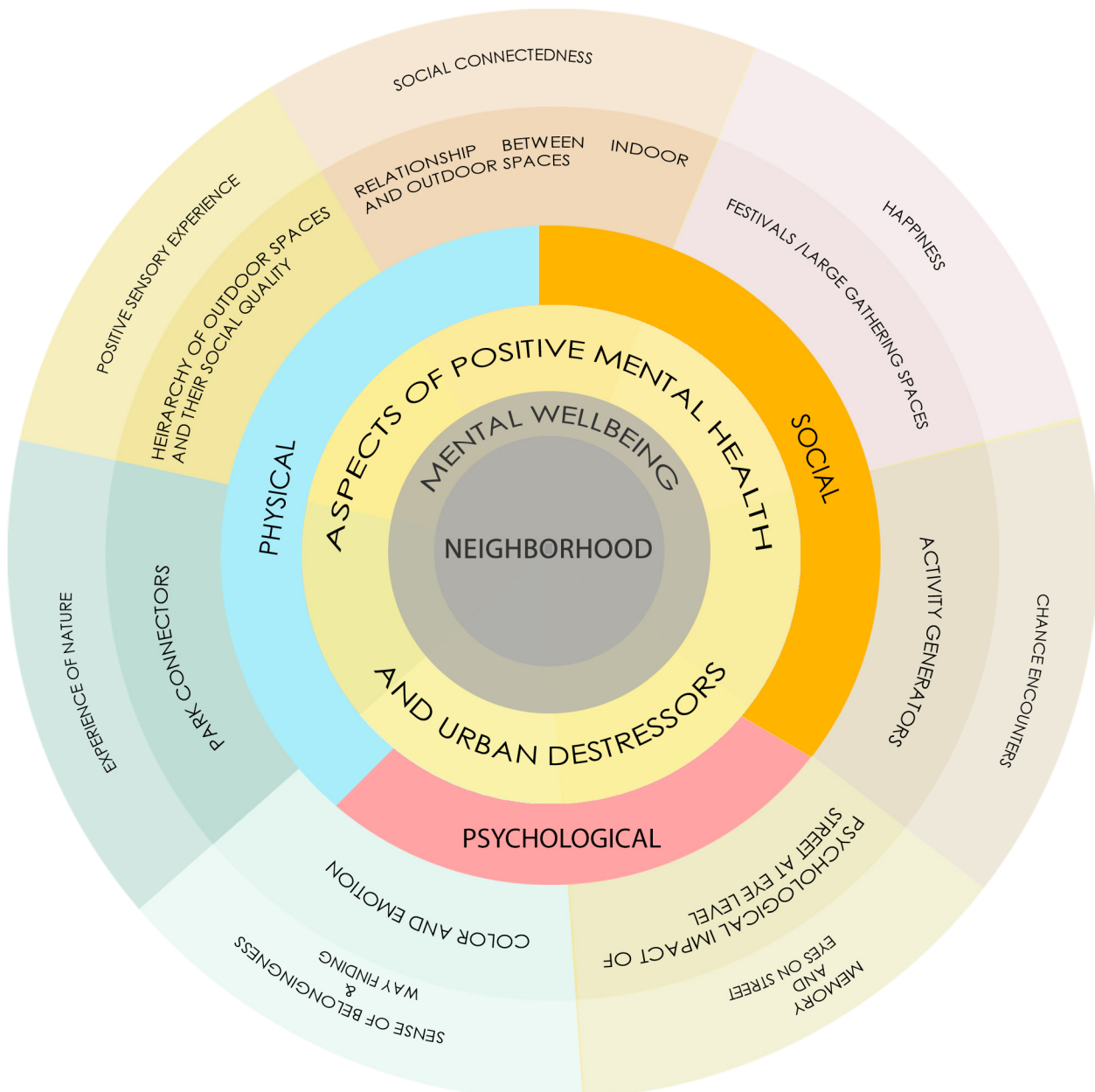
Short summary of guidelines and bylaws that apply to the building, Rosella's overview including main characteristics of the building and 10 to 20 specific things you think could be improved through the design from looking at plans.

2. Cultural expectations including Vastu and other relevant information you might consider: "How people live and what is important"

Deliverable:

Main cultural characteristics of "daily life", what is Vastu and how it influences building in India, relevant practices and festivals and how they influence patterns, general description of how people live, values and what triggers sense of belonging in housing and community.

HAPPINESS BY DESIGN FRAMEWORK



Green spaces provide vital health services as well as environmental services; they are equigenic, reducing socioeconomic health inequalities, facilitating **activity and promoting better mental health and well-being**. The integration of **biophilic design** may provide a cost-effective public health intervention, which promotes the evident positive links between green spaces and mental health(Rogerson,Barton ,2017).

Rosella housing consists of four types of green spaces around the site.

1. green space around housing blocks
2. public park
3. greens connected to ground floor
4. club house greens

1.1 Continious green connect

To improvise, green spaces 1 and 2 can combine become a continuous connect. This will also enhance green cover increasing per capita green area requirements .

The continuous connect will remake the public space accessible for the people.
Refer Figure-2

1.2 Opportunity to walk ,stand and stay

For further creating a **seamless green , pedestrian network** can be made to remove **physical and psychological barriers** . This pedestrian network can be created in a way that strategic locations can become points of rest for the people where they can **stand and communicate** with their freinds on their way.
Refer figure-3

The points of rest can be equipped with sitting space ,light and some art work to easily identify the location which creates memory.

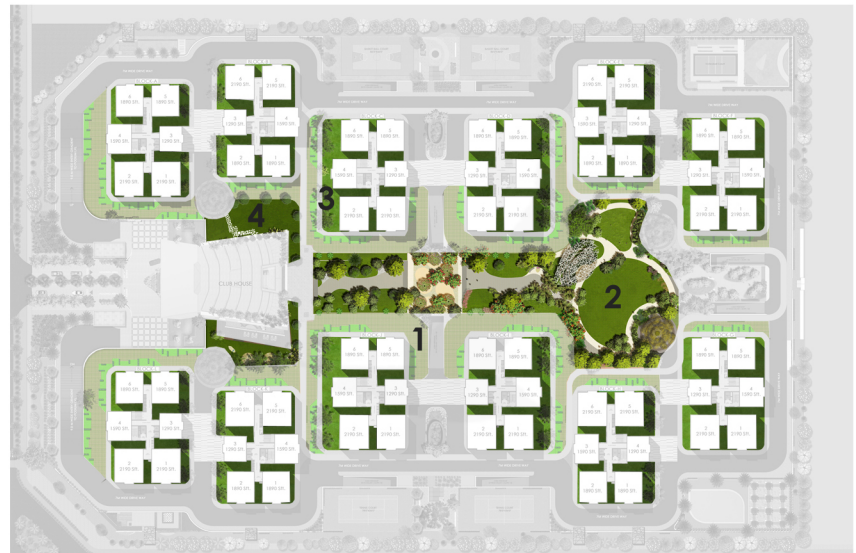


Figure 1 :Existing classification of Green spaces
PlanSource:GENESIS Architectural Design for Rosella housing
Graphic source: Author



Figure 2 :Proposed green space connection to enhance green cover making it a homogeneous in use
PlanSource:GENESIS Architectural Design for Rosella housing
Graphic source: Author

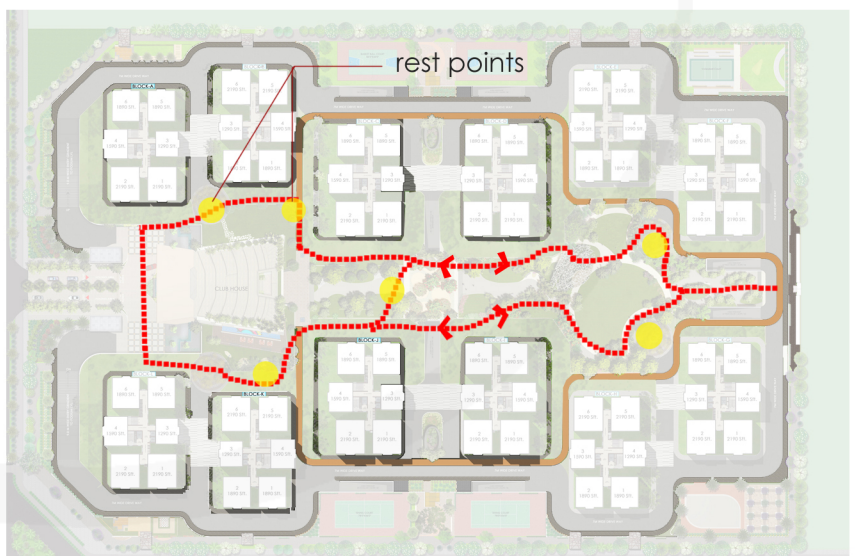


Figure 3: Continuous Pedestrian connect around the site through green enhancing experience and increasing social interactions.
PlanSource:GENESIS Architectural Design for Rosella housing
Graphic source: Author

2. CONFIGURING THE BUILT FORM FOR SOCIABILITY

2.1 VOIDS AS SOCIAL SPACE IN HIGH RISE

Humans implicitly absorb the character of their surroundings (Beard 2016). Living spaces play a huge role in transforming our behaviour and psychology. Now a days the housing typology has mostly shifted to high rise, catering to the increasing population. So to increase social interaction, housing block can be designed in a way that residents can **see, hear and communicate through the provision of the voids(terraces) at equal intervals..** Refer Figure -4,5

Also these spaces give an option of providing greens in vertical typology exposing the people to greener surrounding in high rise as well.

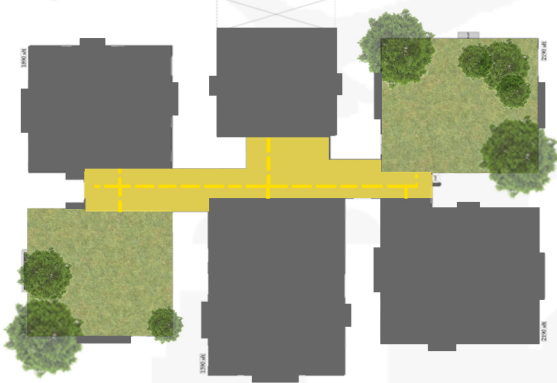


Figure 4: showing the recurring floor with voids serving as vertical greens
Plan Source: GENESIS architectural design for Rosella housing
Graphic source : Author

2.2 OVERLOOKING BALCONIES

The typology shows **extended balconies** at certain interval attached to apartments and lobbies. It overlooks the public spaces creating more **eyes on street and possibility of informal interactions.** Refer figure- 6, 7

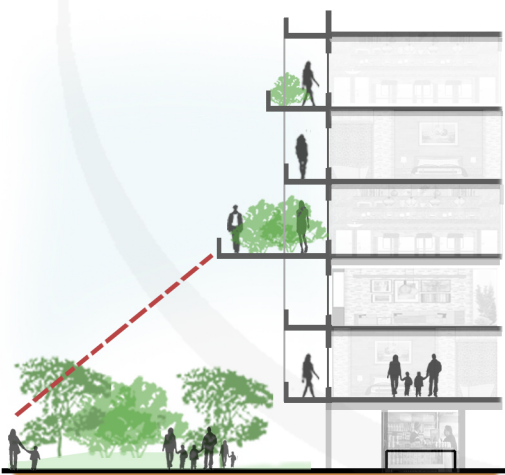


Figure 7 : Section showing overlooking windows to public area
Graphic source: Author

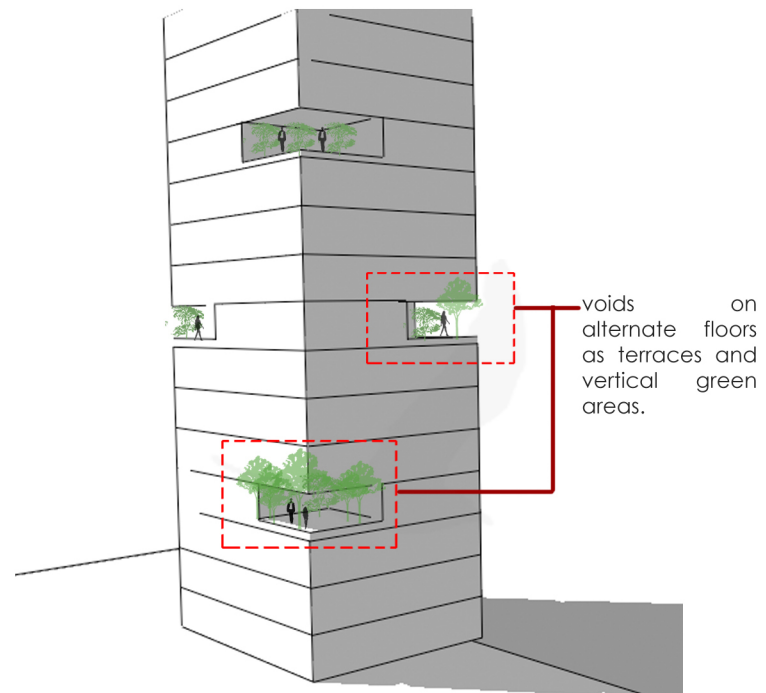


Figure 5 : showing the possible typology configuration in a single housing tower in Rosella housing
Graphic Source: Author

2.1.1 VERTICAL GREENS

The vertical greens gives the residents for chance interactions and experience green space in the semi public space.

Refer Figure- 5



Figure 6 : Showing overlooking balconies as part of interactive typology
Image source: GENESIS architectural design for Rosella housing
Graphic source: Author

3. SPACES FOR ALL

8-80 cities

"We believe that if everything we do in our cities is great for an 8 year old and an 80 year old, then it will be great for all people."

Source: www.880cities.org.

3.1 Hierarchy of outdoor spaces for enhancing their social quality:

Public space

Semi public

3.1.1 PUBLIC SPACE

"Cultures and climates differ all over the world," notes architect Jan Gehl, "but people are the same. They will gather in public if you give them a good place to do it." (Walljasper2005).

Public spaces may serve the following purposes:

a) Multi- functional spaces

Multi- functional space have dedicated areas for various activities but at the same time making it freely accessible to all. The Housing has a central green area which can have activities such as **exercise and yoga zone**, **walking and jogging area**, **kids play area**, **Sitting spaces** etc.

b) Interactive Public spaces

Spaces which provide opportunity to do multiple activities by engaging the community helps in creating **highly active and happy spaces**.

3.1.2 SEMI PUBLIC SPACE

Semi public space provide high Probability of interactions by allowing people to **see, hear and communicate**.

Some suggestive measures for creating semi public space

a) **Free standing walls** with art work at strategic locations which screens from the public space at the same time being a part of it.

b) **Trees** act as natural partition and buffer controlling the entry and exit to the places.

Refer Figure- 12,14



Figure14: Image showing the existing design proposal
Image Source: GENESIS Architectural Design for Rosella housing



Figure 8: jogging and walking zone with some sitting area to enjoy the natural environment in solace

Source: <http://primer.com.ph/blog/2017/03/16/places-in-makati-where-you-can-jog/>



Figure 9 : Kids Play Area

Source: https://commons.wikimedia.org/wiki/File:Children%27s_play_area,_Priority_Park,_Malvern_-_geograph.org.uk_-_1362251.jpg

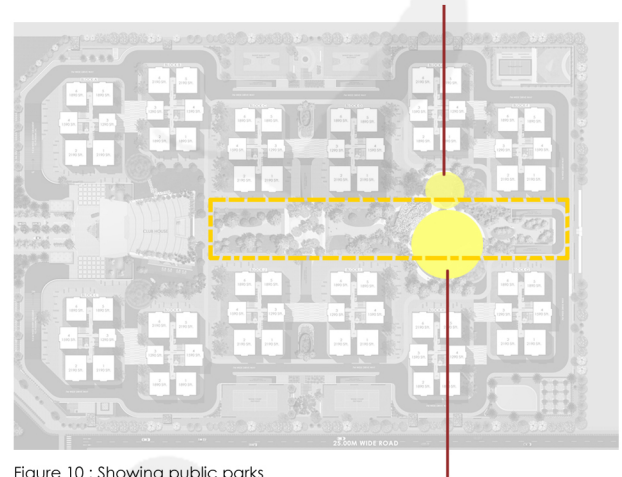


Figure 10 : Showing public parks



Figure 11 :Interactive park techniques, (existing smart park in Orissa,India

Source: <http://orissadiary.com/smart-park-art-work-kids-community-members-join-artists-create-murals-smart-park/>



Figure12:yoga/Meditation/exercise or other daily activity zone

Source: <https://www.whatsuplife.in/Delhi/blog/open-air-gyms-delhi/>



Figure13: Plan showing potential strategic locations for free standing wall
Plan Source: GENESIS Architectural Design for Rosella housing
Graphic source: Author



Figure15: Creating semi public areas through interactive installation in public areas.
Image Source: GENESIS Architectural Design for Rosella housing
Graphic source: Author

4. COLOUR AND EMOTION

The use of color in graphics or urban environment is particularly important because it has a direct impact on the quality of the urban environment. Color in the city organizes urban space and thus changes individual and social life (Molanaie ,2017).

Color impacts on psychology of people in various ways . Each color has its own effect on the mind and also gives a **unique character** to a space. Refer figure 17.

It can help in **way finding and also create sense of belongingness** among th people.



Figure 16: Colour variations on facades

source:<https://www.quotatis.es/consejos-reformas/Inspiracion/tendencias/de-que-color-pintar-la-fachada-de-tu-casa-para-este-2018/>



Figure 17: before any alteration through colours
source: GENESIS architectural design for Rosella housing



Figure 18: Adding colours to enhance and create identity to the place
PlanSource:GENESIS Architectural Design for Rosella housing
Graphic source:Author

5. STREET AT EYE LEVEL

Eye level connection to the surroundings has an effective impact on human behaviour in following ways:

5.1 Orientation and Way finding

This can be achieved through **focal points** and **unique features for orienting** oneself without looking for signage to guide. This will increase belongingness to the living space.

5.2 Public Art installation at strategic locations. This can include spaces provided for flexible use where people living in the housing can contribute some public art depicting **cultural aspects of the city**. Residents of the housing can get together to do the art works to make it a social gathering event. Refer figure -20, 21

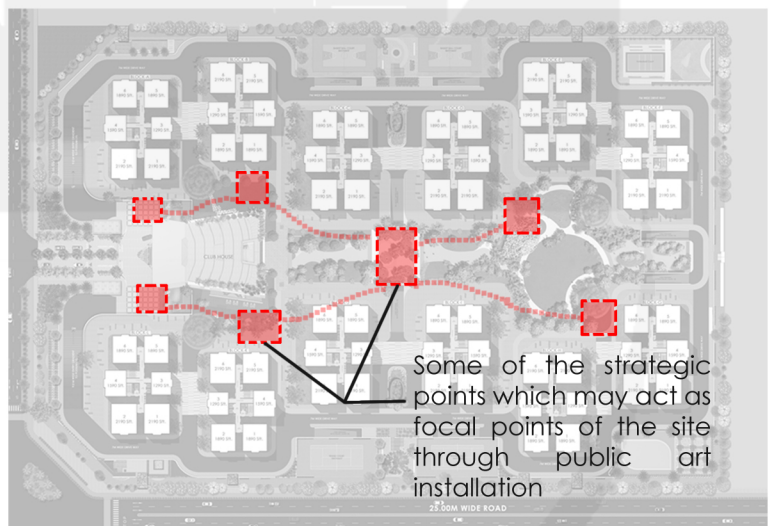


Figure 19: showing the potential points for art installation, it can also be a continuous visual connect.
PlanSource:GENESIS Architectural Design for Rosella
Graphic Source: Author



Figure 20: Art installation
source:<http://urbanupdate.in/tag/international-public-art-symposium-ipas/>



Figure 21 : public art in Lodhi colony ,Delhi
source:<https://www.pinterest.nz/pin/334392341067804637/?lp=true>

6. FESTIVE /LARGE GATHERING SPACES

Festivals are celebrated to ensure that the **indigenous culture** is alive and vibrant. Many of these festivals bring in cheer and happiness into the families and societies (Yeolekar and Bavdekar, "Indian Festivals"). Festivals play an important role providing **cultural connect** among the people which enhance the happiness factor. Some of the important festivals of Amaravati include Dussera, Makar Sankranti, Pongal etc. Refer figure 22,23,24.

By providing festive and gathering spaces around the housing gives the **choice of space to the residents** will encourage them to have more social gatherings.



Figure 22 : Pongal Celebration in the Andhra Pradesh

Source: <https://www.indianholiday.com/india-photo-gallery/andhra-pradesh/pongal.html>



Figure 23 : Makar Sankranti



Figure 24: Ugadi festival

source: <https://www.indianholiday.com/india-photo-gallery/andhra-pradesh/pongal.html>

7. ACTIVITY GENERATORS

Activities can be generated through amenities provided on the ground floor at potential dead spaces.

8.1 Providing Amenities

These amenities can be in the form of everyday shopping stores such as groceries and departmental store. These areas transform into spots for **chance encounters and informal interaction for the people**.

It should be **scattered** all over the site to make the site active. These create natural surveillance through eyes on street.

8.2 Hawker and Vendor zone

Vendors like **chaiwala (Tea seller)** become prime spots for **informal evening meetings** of the residents making the area more social.

Residents create **strong social bond** through these everyday informal encounters

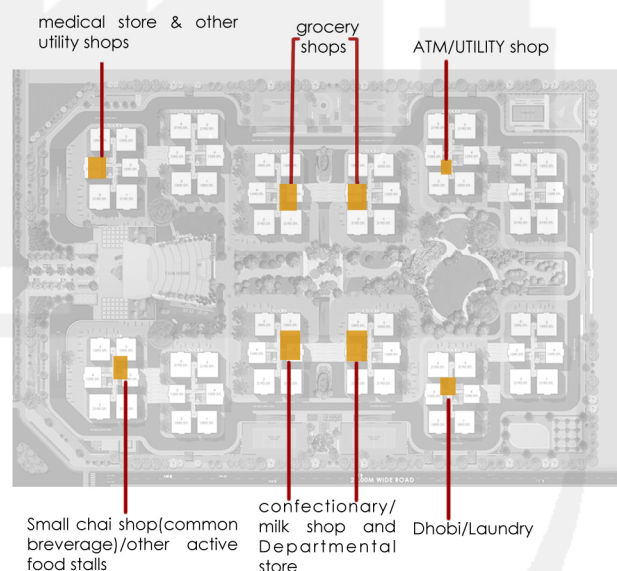


Figure 25 : Potential points of amenities for the residents
Plan Source: GENESIS architectural design for Rosella Housing
Graphic source: Author



Figure 26 : Daily use shops for the residents
Source: http://tickto.com/tickto_demo/tag/fmcg-in-india/

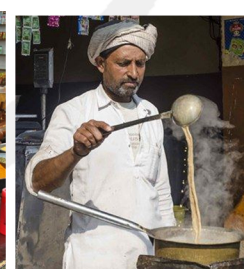


Figure 27 : Chai vala / Tea seller (tea being a common beverage)
Source: <https://in.pinterest.com/pin/550283648197646817/?ip=true>

1. USES

1.2 CONDITIONAL USES:

- Convenience stores not exceeding 60 Sqmt of floor area or 5% of GFA whichever is less.

To be distributed at 3-5 points.

- Dedicated space for street vendors/ Kiosks/hawkers.

2. BUILDABLE AREA COVERAGE

2.4 MAXIMUM FLOOR SPACE INDEX

- Incentive FAR/FSI to be provided for terraces created in towers at an interval of 3 floors. (Please refer Figure- 1)

3. BUILDING TYPE

3.1 MAXIMUM NUMBER OF FLOORS

- Number of floors can be increased for the building having G+10, using stepped terraces keeping total built up area same.

(Please refer Figure- 2)

3.3 BUILDING FORM

- Variations in Typology (Detached, semi-detached, Attached, apartments)
- Variations in the layout pattern in the housing may generate variety of spaces offering more choice in terms of social interaction.

(Please refer Figure- 3)

7. FENCING

7.3 MATERIALS

- The boundary wall shall use materials that allow 50-70% transparency.

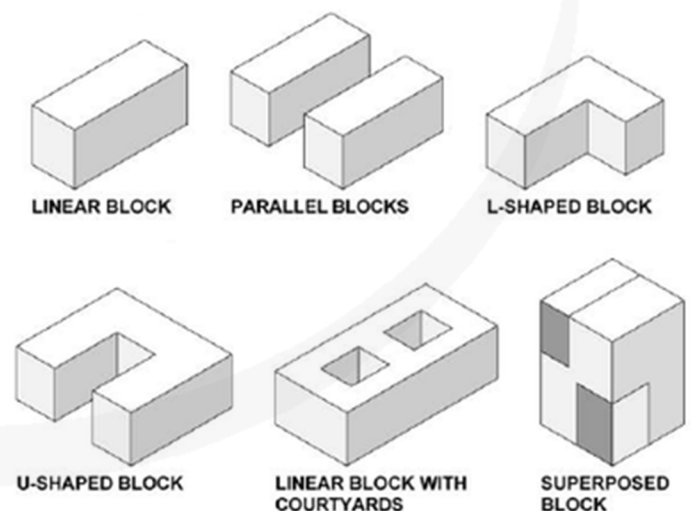
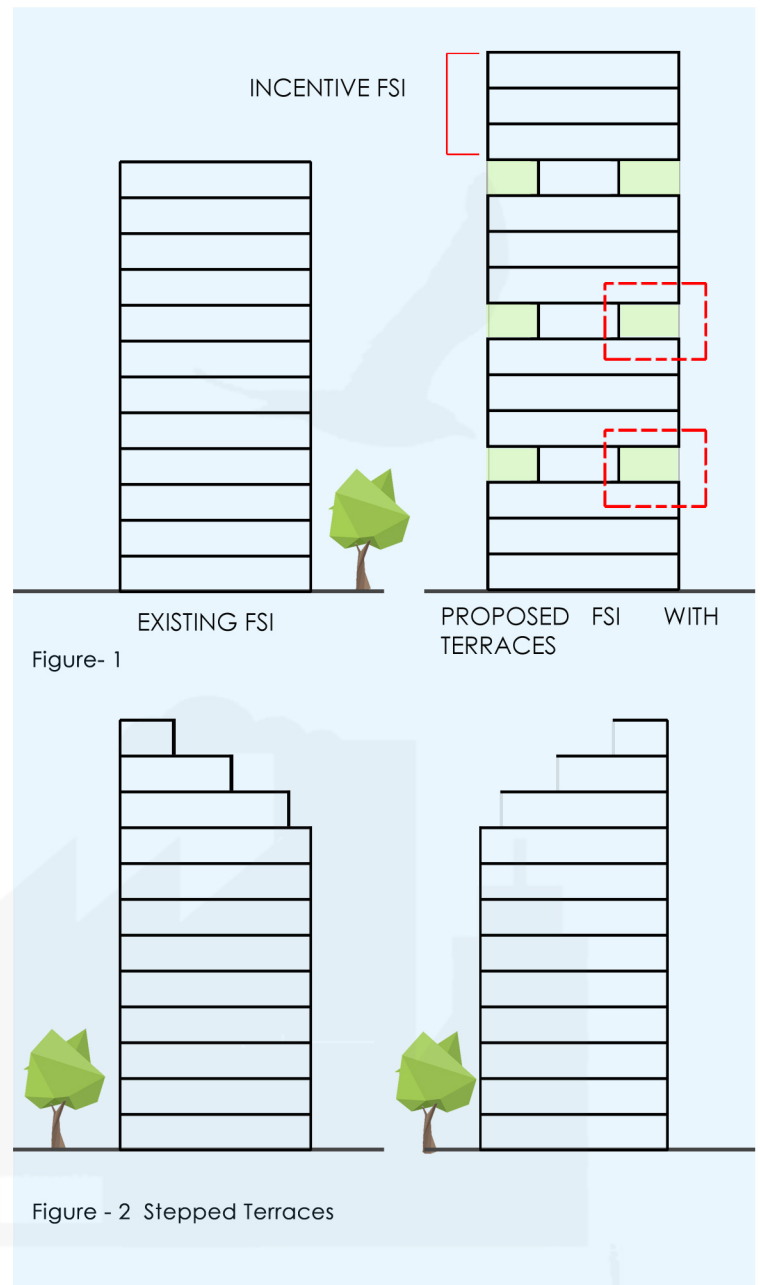


Figure - 3

Different Typologies of built form (Source-researchgate.net)

10. GREEN COVERAGE

10.6 FESTIVALS AND LARGE GATHERING SPACES

5 % of the total site area of group housing should be dedicated to festive spaces offering area for large gatherings of the residents .

Please refer figure no-4

Festivals bring in cheer and happiness into the families and societies(Yeolekar and Bavdekar, "Indian Festivals." 2007).

11. ENVIRONMENT ART DESIGN

11.1 COLOUR, EMOTION AND ASSOCIATION

Local authority can formulate a policy for colour and art design which can give a unique identity and character to the neighborhoods in accordance with the context.

Please refer figure no-5

Color not only evokes a momentary visual sensation, but also it involves experience, memory, culture and similar processes(Manav Bhanu,2017).

12. ASSISTIVE TECHNOLOGY

Local authority along with researchers and developers can develop assistive technology toolkit into their city development plan to enable benefits for people who are aging and people with disabilities, and to indicate suggested practices for building more inclusive smart cities.

(Please refer fig no-6)

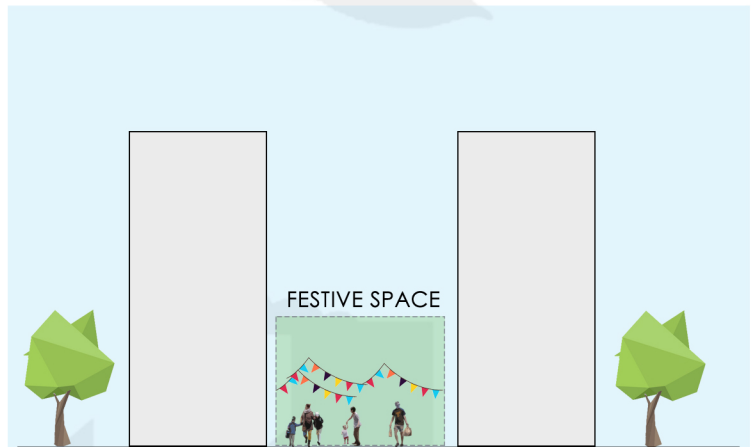


Figure 4- The in between spaces for festivals

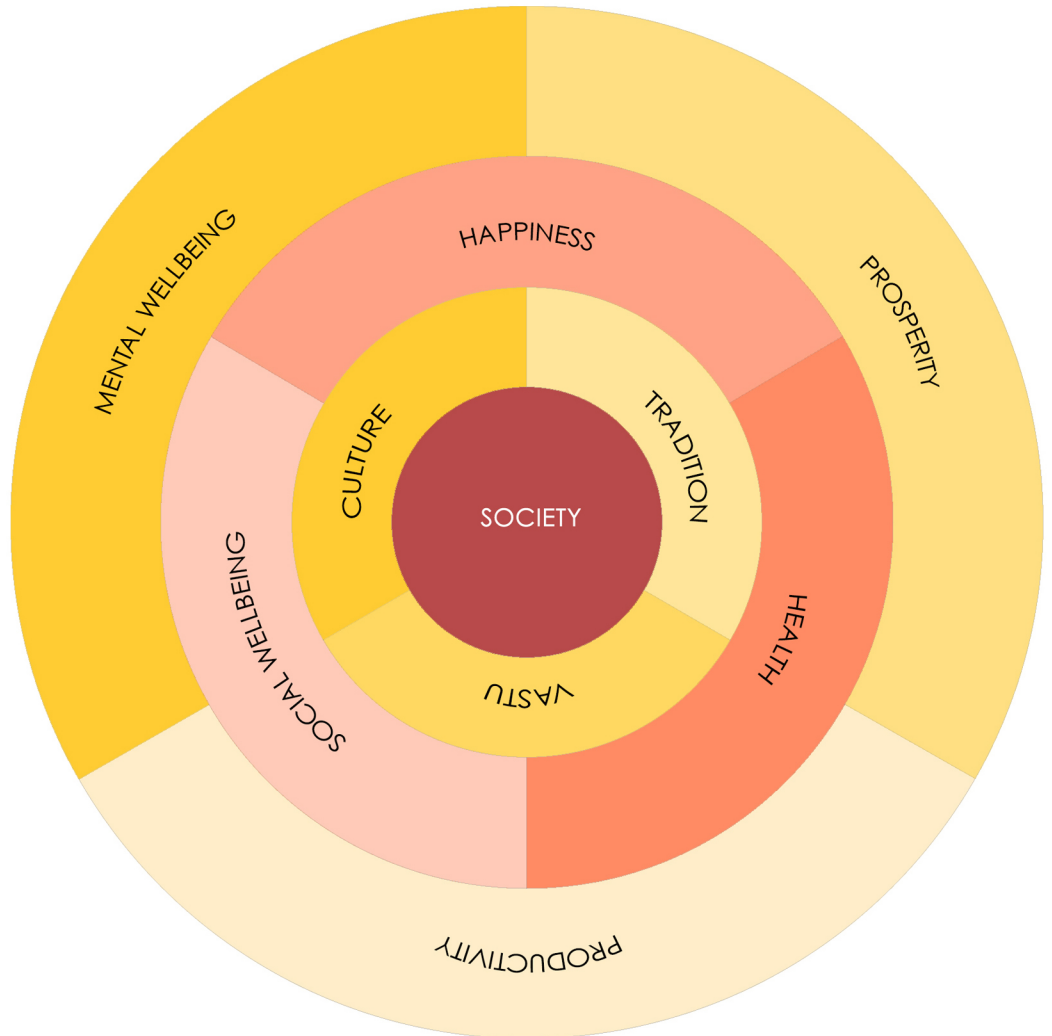


Figure 5
Example- Color city project Albania. (Photo: Merlin and Rebecca)



Figure - 6
Image Source—(Sidewalk Labs)

CULTURAL CHARACTERISTICS AND THE INFLUENCE OF VASTU



1. INTRODUCTION TO INDIAN CULTURE

India is a country known for its culture, heritage, history and natural resources. All the states and union territories have a good number of locations catering to the domestic and international tourists. The people of Andhra Pradesh are also known as Telugu. Their traditional home is the land between the Godavari and Kistna (Krishna) rivers in southeastern India. Today, Andhra Pradesh People are the dominant group in the state of Andhra Pradesh.

Andhra Pradesh is a vibrant conglomeration of People, culture and Festivals. Owing its origin to some of the great Dynasties of the past, the state manifests a magnificent blend of rich Nizami tradition and royal heritage. In the first century BC, the earliest Andhra dynasties emerged. When Europeans arrived in India (1498), the northern areas of Andhra country were in the Muslim state of Golkonda, while southern areas lay in Hindu Vijayanagara.



Figure 1: Showing the large gathering Indian festival-Ganpati Visarjan
Source: <https://womennow.in/traits-that-make-the-indian-culture-unique-2/>



Figure 2: Festival of colour, Holi in India
Source: <https://www.istockphoto.com/in/photos/indian-culture?sort=mostpopular&mediatype=photography&phrase=indian%20culture>

2. ANDHRA PRADESH'S CULTURE AND ETHNICITY

2.1 Culture and Traditions

- The Telugu people with a sparkling social structure are the blend of resonant conglomeration of the culture and traditions
- Muggulu is one of the most common traditions followed by the Telugu people where a threshold design is done at the entrance of the house with a rice powder.
- But now rice powder is slowly getting replaced by lime stone powder and on the special occasions colored powder called as Rangoli.
- There is a traditional belief of the Telugu people that the Kolam keeps evil away from their house.
- Ugadi is a Telugu new year and on this day people mix cow dung with water and sprinkle it on the ground in front of their houses and also many other customs are carried out on this day.

2.2 Cultural Heritage

- The Andhras perform kuchipudi, a dance-drama. The Andhra people also have contributed greatly to south Indian classical music. Tabla, the predecessor of the timpani or kettle drum, is a small drum. The drummer sits on the floor with a ring-shaped cloth pillow on the floor in front of him. The tabla rests on the pillow, and is drummed with the fingers and palms.

South Indian compositions are mostly written in Telugu because of the smooth, rich, sound of the language. Telugu literature dates to the eleventh century AD.

2.3 Music and Dance

This land has given birth to three legends in the world of Carnatic music namely Shyama Sastri, Thyagaraja and Muthuswami Dixitar. Since the Telugu language is spoken by most people in the state, it is, therefore, able to bring out the originality and the true spirit of the Carnatic music. Some famous Carnatic music composers include Kshetrappa, Annamacharya and Bhadrachala Ramadasa. This type of music is also said to be begun by the Holy Gods. Another very famous kind of music which has said to be originated from Carnatic music is folk music. This art has been passed on to the descendants over the years.

SALIENT FEATURES

- India has diverse culture and many traditional beliefs.
- Culture and traditions of Andhra Pradesh binds people together in a strong social structure.

Kuchipudi is one of the most famous dance forms which is also recognized as one of the best kind of dance forms in the world. Kuchipudi undoubtedly has some similarities with another dance form that is, Bharat Natyam. Along with Kuchipudi, many other dance forms including Perini which is an amazing dance form have emerged from the state of Andhra Pradesh. Perini is like a warrior dance which is also known as the 'dance of Lord Shiva'.



Figure 3: Image showing cultural dance of Andhra Pradesh
Source:
<https://www.sanskritimagazine.com/india/kuchipudi-dance-cultural-heritage-andhra-pradesh/>

2.4 Handloom

The state of Andhra Pradesh is also very famous due to the skilful hand weaving quality displayed by the local residents, especially Ikat. This practice of using and selling hand-stitched clothes is a traditional practice being followed till date. The state has some royal dress material and saris with intricate designs to offer. All the handmade designs are very delicate and carefully woven. Every sari is adorned with a 'pallu' and a thin border which is embroidered with some kind of golden thread work.

Exclusive to Andhra Pradesh, Ikat is renowned the world-over for its intricate designs and patterns which are also closely followed in Orissa and Gujarat. It originates in the villages of Nalgonda district and involves weaving randomly dyed yarns in a geometric or zigzag pattern giving the finished cloth an unparalleled beautiful design. Ikat handlooms can be described as the jewel in the crown of Andhra Pradesh culture.



Figure 4 : Image showing handloom work in Andhra Pradesh
Source:
<http://www.yarnsandfibers.com/news/news-tags/andhra-pradesh-handloom-industry>

2.5 Cuisines

The traditional food of Andhra Pradesh include Pulihora which is tamarind rice, Poppadams , Pesaratu, Sambar, Rasam, Payasum and the like. Most of the Andhra cuisines is vegetarian but the coastal regions of the state serve very tasty and fresh seafood comprising of prawns and fishes. The cuisine of Hyderabad has been influenced a lot by the Nizams as well marked by its rich flavours and textures. The Biryani of Hyderabad known as Mirchkasalan is famous all across the world. Nothing can be compared to the exotic taste of this aromatic dish. The Hyderabad food has a lot of variety ranging from sour to sweet, hot to spicy. The food here is incomparable and is embellished with lots of dry fruits. Some other authentic dishes apart from Biryani include Chakna, Dalcha, Murghka Korma, Katti Dal and much more. Sweet dish after food is like a compulsion and this state lags nowhere behind in its sweet dishes which include Sheer Korma, Bandhar Ladoo, Putharekulu, Gajjar ka halwa etc which are prepared in pure ghee.



Figure 5 : Image showing Andhra pradesh thali
Source:<https://www.spicingyourlife.in/2012/04/andhra-thali-mudda-pappu-bendakaya.html>

SALIENT FEATURES

- Handlooms is a renowned art and business of Andhra Pradesh.
- Ikat handlooms can be described as an essential part of Andhra's culture.

3. VASTU SHASTRA

VASTU SHASTRA is the traditional Indian system of architecture and design of Vedic origin. A part of the Vedas, the word 'Vastu' in Sanskrit means 'dwelling', and in the modern context, it covers all buildings. Vastu pertains to the **physical, psychological and spiritual order of the built environment, in consonance with the cosmic energies**. It is a study of planetary influences on buildings and the people who live in them, and aims at providing guidelines for proper construction (Rewa Kumar, "Vastu Shastra").

The fundamental concept behind Vastu Shastra is that world is made up of five basic elements: **Earth, water, fire, air and space** and it is purely based on some of the following basic principles of science: (Rewa Kumar, 2014)

- The gravitational and magnetic force of the earth
- Rotation of the earth on its axis, and the centrifugal and other forces created by its movement.
- Energy is neither created nor destroyed. There is a constant flow of energy "INCORPORATING VASTU SHASTRA IN DEVELOPMENT CONTROL REGULATIONS FOR NEIGHBOURHOOD PLANNING Preetha Ravisree".

Vastu tries to link the five elements of nature essential for our living with architecture. Each having an explained meaning in science:

Space : Cosmic radiation

Fire : Solar radiation

Air : wind energy

Earth : Magnetic field of the earth

Water : Gravitational attraction of the Earth

(Suriyanarayanan, Muthu, Venkatasubramanian 2016)

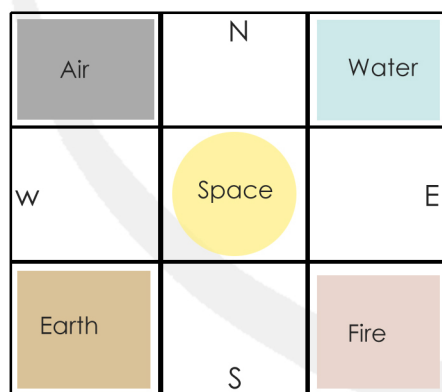


Figure 6: 5 elements (Panchbhootas) and their position in vastu according to the direction.
Source: Author

3.1 Planning according to Vastu

There are five fundamental principles on which 'Vaastu Shastra' stands and they are:

Site orientation – Diknirnaya.

Site planning – Vaastu Purusha Mandala.

Proportions of the building – Maana.

Dimensions of the building – Aayadi

Aesthetics of the building – Chanda.

Source: ("SCIENTIFIC VASTU PRINCIPLES | An Architect Explains | Architecture Ideas.")

3.2 The mystery of the Vastu Purush Mandala

In Maha Vastu, it says that through any built up structure or building, we can actually control a person's mind. To understand secret of Vastu, it is imperative to know the meaning of the Vastu Purush Mandala and how it came to existence, it is the omnipresent soul residing in a building. On observing the energy fields, there are different stages to develop for a building - starting at stage of a vacant plot, to the digging of land, laying foundation and then completion of building and finally the point when it is inhabited by the people. When all this is observed by mind senses, the secrets of Vastu Purush Mandala are unraveled.

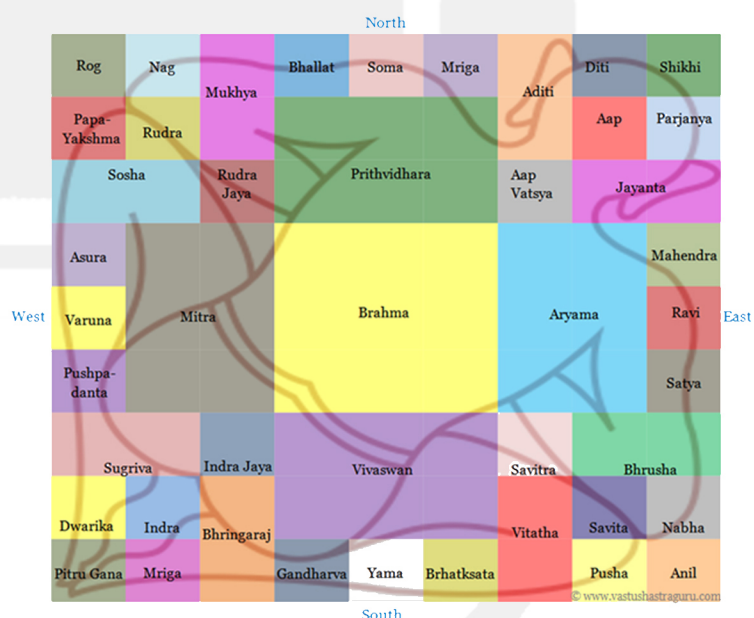


Figure 7: Commonly used Vastu Purush Mandala for vastu Puja

In the diagram we see Vastu Purusha pinned down facing earth with his head in the North-East direction and leg towards South-West direction. It was a collective effort of 45 Gods (including Brahma) to pin Vastu Purusha down.

3. VASTU SHASTRA



Vastu Purusha Mandala is divided into $9 \times 9 = 81$ parts (as shown in the diagram), each part names the **God holding Vastu Purusha** down in respective part. There are 32 Gods in outer part and 13 Gods in inner part. This means that there is presence of different **Gods in Vastu Purusha Mandala and each of these Gods rule different parts of a human life as per their qualities.**

This is the reason why while making rooms in a home, we make sure not to offend any deity of that area. Vastu Shastra lays guidelines and principles to keep all deities **happy at all times**. Hence as per vastu shastra if any building is constructed according to Vastu Purusha Mandala then prosperity prevails in the building and inhabitants are always **happy, healthy, wealthy and satisfied**.

As humans, depending upon the time, we perform many functions throughout a day. For example, we sleep at night, get-up in the morning, work in daytime and again go to sleep at night. Also, we perform all these activities at different locations in a home or any other building, such as office, workshop etc.

We all know that we have 24 hours in a day due to rotation of earth on its axis and the position of sunlight changes constantly during 24 hours due to this rotation. Depending upon the position of Sun in relation to earth during a 24 hour period, our ancient Sages structured **various rooms of a home in such a way so that during anytime in a day, depending upon the location of work, humans get the best rays of sun on them.**

3.3 Creation of the creator or Brahma: Unlimited potential

Pujan and shilanyas (foundation) in piece of land , the foundation walls are constructed till they reach the plinth level , a field of energy develops on that land . Right in centre of the plot , a group of energies accumulating creates an aura(energy field) termed as Brahma in the shastra. This is the first energy field that gets developed in the centre , after the formation of the boundary wall(fence) beneath the ground floor of the building.

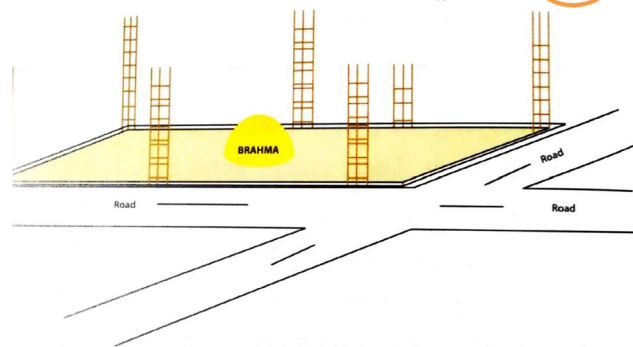


Figure 8 : development of Brahma Field at the beginning of construction

3.4 Origin and development of 45 Devas in Four Directions

As construction of building progresses and walls rise to height, the energy also starts expanding and evolving in the four different colours of energy fields. They develop in a similar way as the ripples in water and subsequently other ripples develop- Blue towards East, white towards South, silver-white towards West and red towards North.

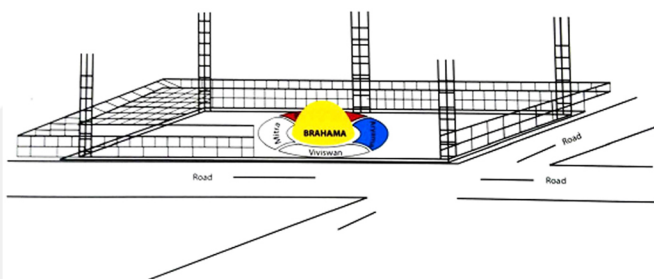


Figure 9 : Development of four energy fields in cardinal directions

The brahmasthan is a special central zone in building. It should be free from any obstructions in the form of a wall , column or a beam, furniture or fixtures and should be well lit from above – by skylights for instance. Being the centre of plot vastu directions are determined and makes it an extremely important point.

SALIENT FEATURES

- Brahmasthan has been an important consideration in housing typology in India as these houses have courtyard and built form is surrounding the that courtyard.
- It becomes a socializing and praying space for the people living around it.



3.5 The attributes and usage of Five Elements in life

Ancient cultures always believed in the power of the five basic elements that abound in Nature. Though we are mostly unaware of them in our present-day, fast-paced life, yet they are everywhere, affecting us in unseen ways. The five elements are Earth, Water, Fire, Air and Ether, ether meaning the sky or space. These five elements are not only those that comprise the Universe, but also what we are made up of as the saying goes, "from dust to dust...", these are also the elements that will form part of our end.

Hinduism knows the five elements as Prithvi (Earth), Jal (Water), Vayu (Air), Agni (Fire) and Akash (Ether). While Hinduism also defines the fifth as "the spiritual sky", Buddhism defines the fifth element as space. **According to Vastu the building is also made up of these five elements , however the proportion of these elements vary in different buildings- becoming more or less at some places.** This is because each zone in building belongs to a particular element that regulates and influences the lives of inhabitants. The balance in these elements create gains among the inhabitants and if unbalance create problems and tensions in their lives.

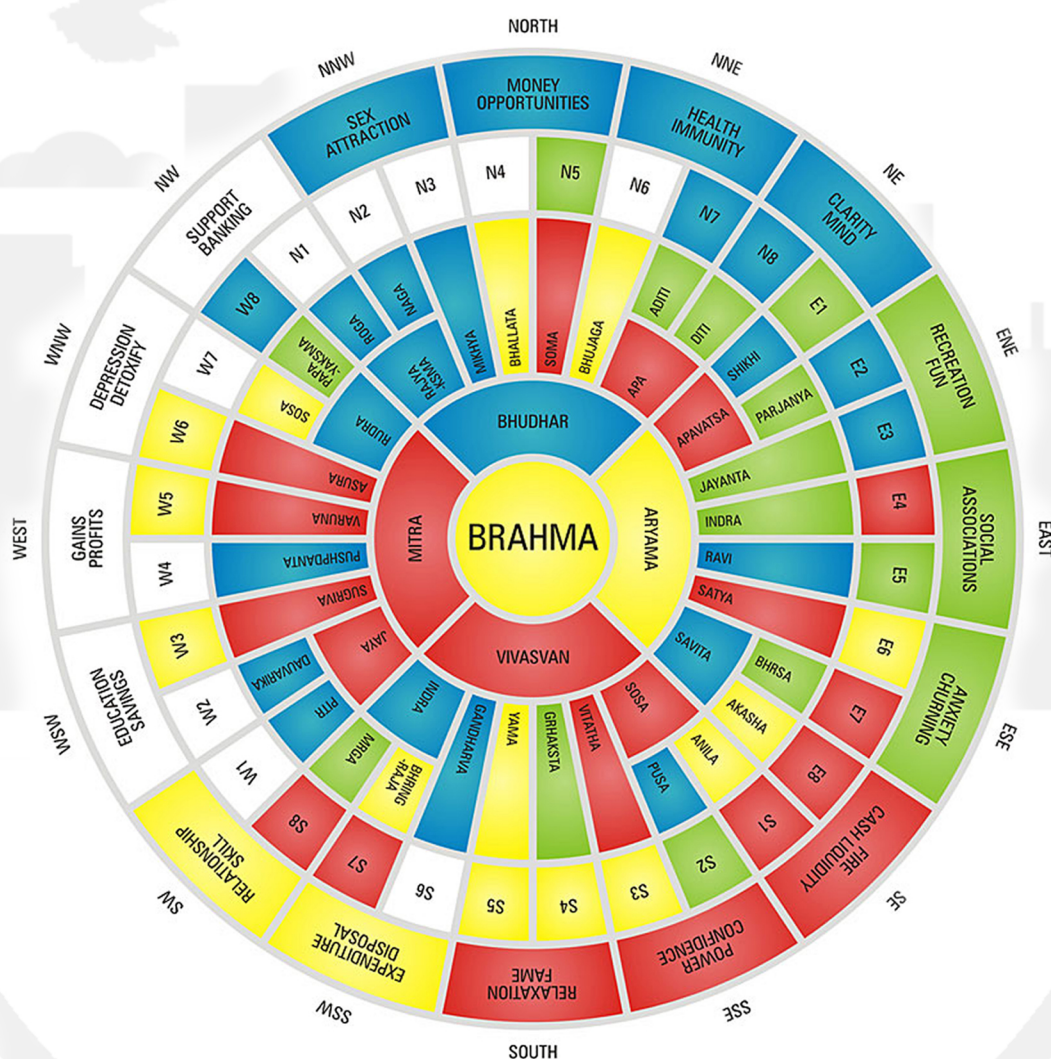


Figure 10 : Vastu Purush Mandala for buildings as per Varahamihir's Brihat Samhita

Element	Colour	Shape	symbol
Water	Blue	Wavy	
Air	Green	Rectangular	
Fire	Red	Triangle	
Earth	Yellow	Square	
Space	White	circular	

Figure 11 : Representing the colour, shape and symbol of five elements



<p>Water</p> <p>It is associated with conception of new ideas, clarity of thoughts, creation of new vision, flowing of new opportunities in your life, healing energy, immunity and restoration of health. Water dominates the North direction in buildings.</p>	<p>Balanced State</p> <p>When Water is in balanced state in a building, the people in such buildings are able to see the larger picture of life. Though their attitude towards life becomes spiritual and philosophical, they are, at the core, essentially, worldly beings.</p>
<p>Air</p> <p>Air represents growth in your life. It is also associated with movement, especially rotational movement, so it brings refreshment, fun, joy and happiness in life. This element dominates the East. The Chinese call it the Wood element.</p>	<p>Balanced state</p> <p>Air gives you the courage to try new things, take risks for your growth and to explore your inner-self. You get to meet people who pave the way for your growth and you perform impressively.</p>
<p>Fire</p> <p>Fire is the driving force behind all life processes and thus is equated with money in modern era. It can transform your life with confidence and enthusiasm. South is the direction of Fire</p>	<p>Balanced state</p> <p>In its balanced state, Fire brings you fame and recognition among the masses. It gives you zeal, power, strength, confidence and money, which become the driving force behind life and its processes.</p>
<p>Earth</p> <p>Mother Earth gives stability. balance, infinite patience and maturity in character are imbued by this element. Earth dominates the centre and diagonal directions in every built-up Space.</p>	<p>Balanced state</p> <p>When balanced, this element induces stability in your life - be it your career, behavior, relationships, or results of your efforts. It encourages towards a feeling of peace and harmony with the entire world especially with those related by blood.</p>
<p>Space</p> <p>Space represents expansion, enhancement, extension, spread, communication and even thought process (Mental Space). Space dominates the Western direction. The Chinese call it the Metal element owing to perfect space configuration in metals (Atomic Structure).</p>	<p>Balanced state</p> <p>In a balanced state, Space gives you the charge of your destiny. It gives you a sense of direction and the ability to get organized, ensuring that you excel in all that you do. Space gives you the knowledge and awareness to understand new, creative and beneficial ideas.</p>

Source: Vastu Shastra Today ,Dr. Khushdeep Bansal

5. VASTU FOR A HOUSE DESIGN



A House has various spaces catering different functional requirement of the family. The following table explains usage of space in each direction.

Vastu zone	Attribute	Element	Ideal activity
North	Money And Opportunities	Water	Bedroom
North- North- East	Health And Immunity	Water	Bedroom
North-East	Clarity Of Mind	Water	Puja
East-North-East	Recreation And Fun	Air	Drawing Room
East	Social Associations	Air	Drawing Room
East-South-East	Anxiety And Analysis	Air	Toilet
South-East	Cash	Fire	Kitchen
South-South-East	Power And Confidence	Fire	Kitchen
South	Relaxation And Fame	Fire	Bedroom
South-South-West	Expenditure And Wastage	Earth	Toilet
South West	Relationship And Skills	Earth	Study
West-South-West	Education And Savings	Space	Study
West	Gains And Profits	Space	Meeting Room Or Drawing Room
West-North-West	Depression	Space	Store
North-West	Support And Banking	Earth	Store
North-North-West	Attraction And Sex	Water	Bedroom

Table 2: Vastu zones, Attributes, Element and their ideal activities.
Source: Vastu Shastra Today, Vastu Shastri Dr. Khushdeep Bansal

6. EXAMPLES OF VASTU IN ARCHITECTURE AND PLANNING

6.1 House in Kerala

In Kerala where the climate is generally wet and humid, the building principles cater to the needs of a different set of constraints. Here the **Vastu Purusha Mandala** is perceived as a square that broadly consists of three concentric zones around the central square, the Brahmapadam.

The Brahmapadam is occupied by Brahma, and is **left open as a courtyard**. Around it is the Deva Vithi, or the zone for God, which forms the inner veranda. Surrounding the Deva Vithi, is the Manushya Vithi or the zone for Man, which is the middle ring where the main structure is built. The outermost ring is the Paishacha Vithi or the zone for demons, considered auspicious for building the structure. This kind of planning ensures large outer and inner verandas around the central open space, that generate air circulation. This renders the dwelling comfortable by reducing the humidity.

(Chakrabarti 1998).

Source: CONTEMPORARY USES OF VASTU VIDYA, Vibhuti Chakrabarti.

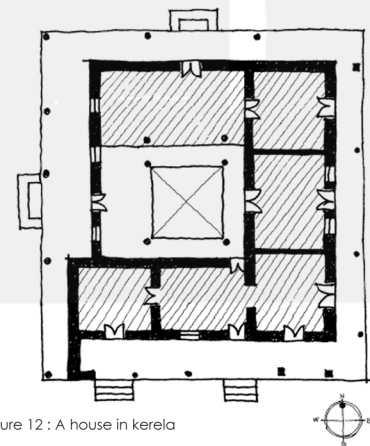


Figure 12 : A house in Kerala

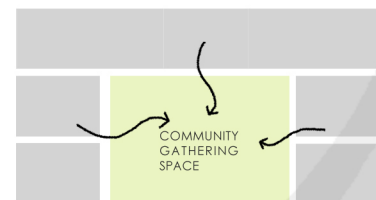


Figure 13 : Illustrative plan for central open space as community space
Graphic source: Author

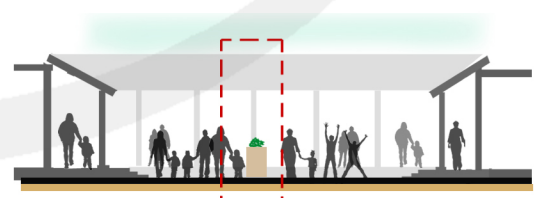


Figure 14 : Illustrative Section showing the community gathering the central space
Graphic source: Author

6.2 JAIPUR RAJASTHAN - Vastu at the city scale

Sawai Jai Singh laid the foundation of his new Capital City in 1727A.D. and named it as 'Sawai Jaipur'. It was also known as 'Sawai Jainagar' which later on became popular as 'Jaipur'. Jaipur is considered to be one of the best planned cities by many urbanists. Jaipur city was designed by architect Vidyadhar Bhattacharya as per Vastu Shastra. The city is full of famous forts, enchanting palaces and lovely temples.

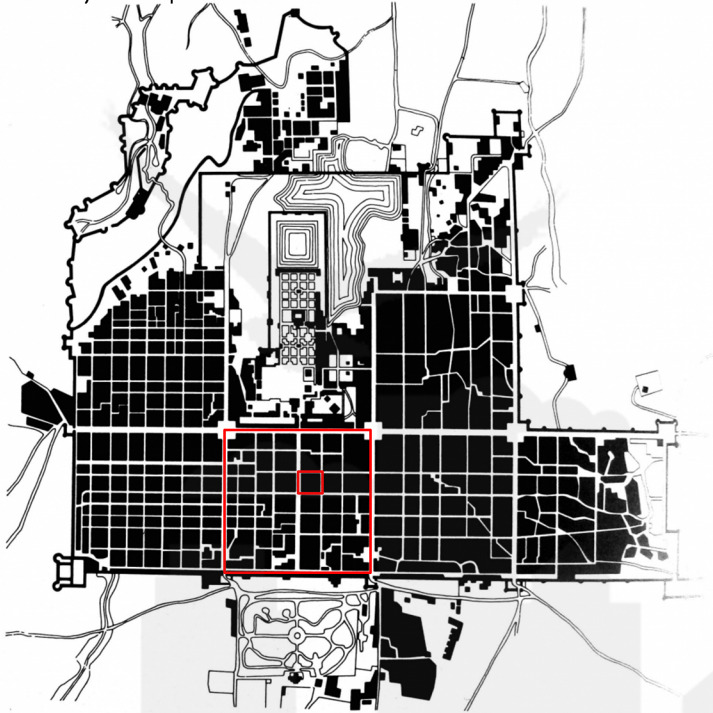


Figure 15 : Showing the grid plan of jaipur based on vastu
Source: Vidyadhar. City plan of Jaipur. Jaipur State, Undivided India, 1734. Drawing and Thinking Space In inhabitations: Conference on Contemporary Practices of Space held in January 2018 at Jaipur Kala Kendra. (When Is Space? An Exhibition on Contemporary Architecture Commissioned by Jawahar Kala Kendra). s.p + a, 2018. <https://architexturez.net/file/bvd-jaipure-figure-ground-png>

A structure of relative wholeness is observed in the planning of the city of Jaipur. Jaipur was divided into nine squares (Paramasiya Mandala) by streets, creating large city wards (Sachdev, 2002). These were then divided into neighbourhoods made up of cluster of houses that led to individual houses. The buildings were designed as a set of rooms around a courtyard, which was the centre of all activities. Thus the whole city was designed in terms of cells within a set of cells (ibid). All individual units were whole yet linked to the larger whole by the network of streets and open spaces. This connected spatial network was in response to the Vastu principle that it is essential to maintain hierarchy of streets and open spaces in accordance to how the supreme creator has made the universe where all things are connected to one

The grid iron pattern can be laid on the Vastu Purush Mandal and the temple of Govind Deva defines the centre or the Brahmasthan.

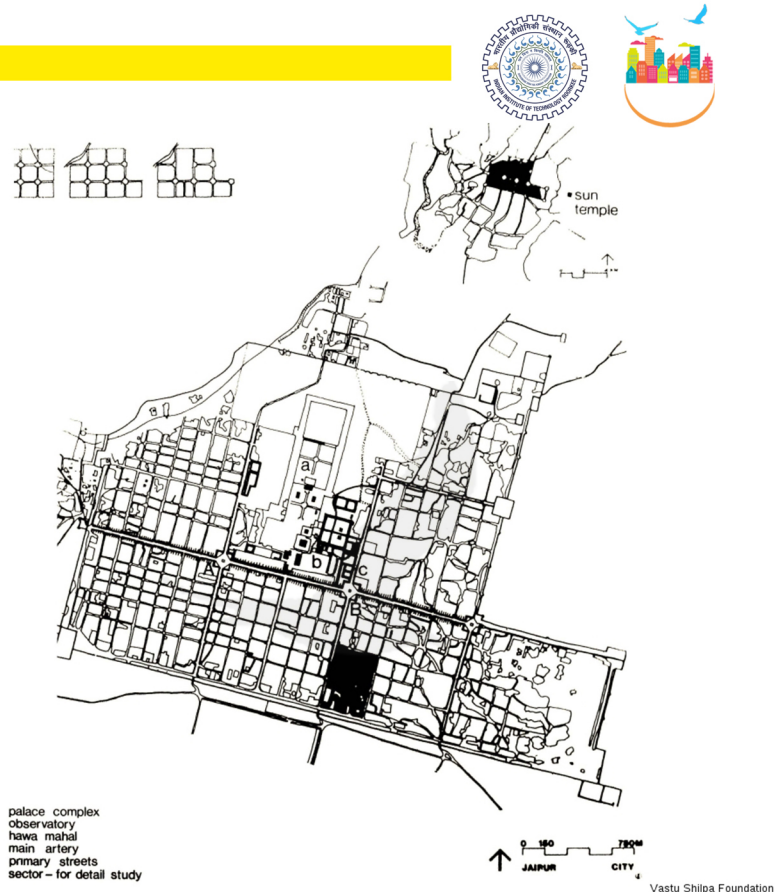


Figure 16 :Showing the Primary and secondary streets of the old city Jaipur
Source:Vidyadhar. City plan of Jaipur. Jaipur State, Undivided India, 1734. Drawing and Thinking Space In inhabitations: Conference on Contemporary Practices of Space held in January 2018 at Jaipur Kala Kendra. <https://architexturez.net/file/dr-s-0153-1-jpg>

The principles of being sensitive to the natural context and its natural resources guided the urban form. The land being flat, the street layout is fairly regular and their orientation is in accordance to the prevalent winds and the sun. The dimensions and form of the Mandala can also be seen to have been affected by the presence of natural features like hills, woodlands and lakes within the site.

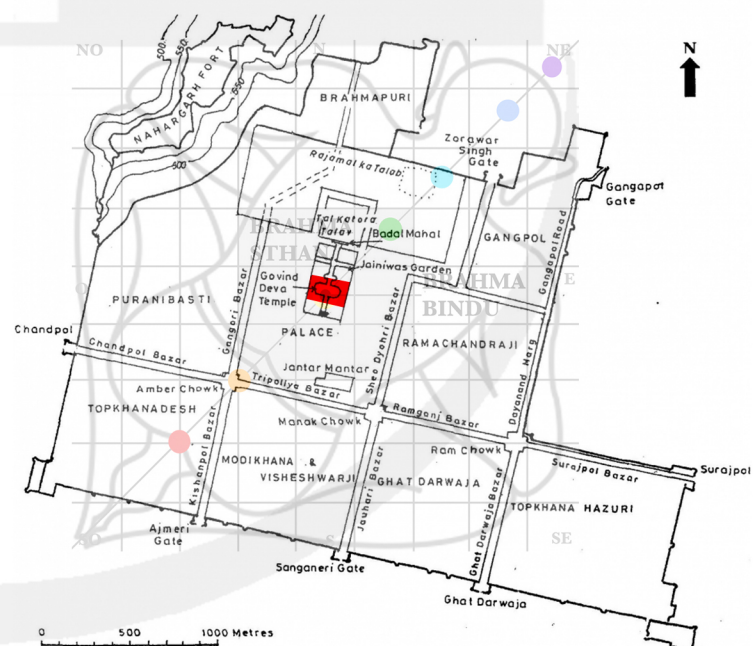


Figure 17 : Showing the overlay of VPM on the jaipur city plan
[Source] Salam, Abdul. Foundation and early history of Jaipur city. Aligarh Muslim University, 2011. Vidyadhar. City plan of Jaipur. Jaipur State, Undivided India, 1734. <https://architexturez.net/file/10-chapter-2-pp-60-jpg>

India has a rich culture with diverse communities and religions living together. The festivals and gatherings play an important role in connecting people together. The communal spaces such as courtyards between the group of houses form gathering and praying space which according to vastu is a space for god (open to sky). Vastu considers nature and climate an important aspect of design which coincides with the contemporary architecture as well. Vastu and Culture are interconnected as both link to the spaces which enhance the social sustainability of the people. The principles of vastu comply with natural elements around the site which is an important consideration in today's time as well. Andhra Pradesh is culturally and traditionally a rich state, thus keeping mind the social structure and day to day activities of the people, Urban and architectural design of the city should foster these needs to create a happy Amaravati.



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