# Analyzing the applicability of Vaastu shastra under various climatic regions of India



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## Abstract

Vaastu is a culmination of several aspects of Astronomical and Astrological sciences. It is considered to be one of the oldest and ancient technique adapted by the Indian civilization. It mainly deals with science of Architecture and tells how building should be planned and oriented to attract positive energy (Reena Patra, 2017) (Shruti Soni, Soma Mishra, 2019). Vaastu Shastra is that particular science of building design and planning which deals with the specified study and practice of the inter-relationship of the forces of nature, heavenly bodies and supernatural elements in the cosmos. (Ankur Pandey, 2020) states that man is regarded as a cosmic being who must survive in harmony with the other cosmic elements. It is not merely an extension of religious affirmations or sentiments but a well thought out process showcasing valid reasoning with explanation to every question raised.

This research focuses on analyzing the study of the principles of Vaastu Shastra and its applicability under different climatic conditions in India. The landmass of India is broadly classified into five climatic zones. Each climatic zone has its own set of unique character and hierarchy of influence towards the surrounding setting. Each element of Vaastu Shastra will be impacted in some way or the other. The primary aim shall be to look into each of these parameters finding out similarities and disparities across climatic zones. Owing to the vastness of the topic, the scope of study has been restricted to the applicability of the principles of Vaastu Shastra.

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## Introduction

The historical significance of Vaastu Shastra can be traced back to Vedic times. The origin of Vaastu Shastra can be found in the Sthapatya Veda (a segment of Atharva Veda). There were numerous buildings built for the king in the city of Indraprastha (modern day Delhi) based on the guidelines of Vaastu. Not only in the Hindu mythological texts, references can also be found in Buddhist literature. (Priyanka Barodia, 2019) (Shruti Soni, Soma Mishra, 2019) states that Vaastu is the science of direction which combines five elements of the nature namely earth , water , fire , air and space. These five elements are together called “Panchabhootas”. The culture India lays immense emphasis on spirituality and divine blessings. It is believed to be of great value for the well-being, health and happiness of the people.

Climate responsive and Vaastu are synonymous bearing a congenial relationship with each other. Orientation of the built form with respect to the site or even the internal spatial arrangement is explicitly influenced by Vaastu. It is more of a scientific study based on derivations rather than superstitious thoughts, it invokes a strong feeling of indebtedness towards the built space. Since the results are often beneficial, people tend to develop a strong notion of abiding by these principles. The people of India have always believed in harmonious living with a robust community participation and mutual understanding.

## Aim

Analyzing the applicability of Vaastu Shastra under various climatic conditions in India.

**Objective**

The key objectives of this study include:

- To understand the principles of Vaastu Shastra
- To study the climatic conditions of India
- To analyze the Vaastu Shastra principles with respect to climatic conditions
- To seek the applicability of these principles in different parts of the country
- To be able to provide suggestive framework

**Methodology**

The research methodology and research design forms the backbone of any research process. A well-structured research framework clearly outlines the structure of the research giving definitive direction to obtain desired results meeting the objectives under study.

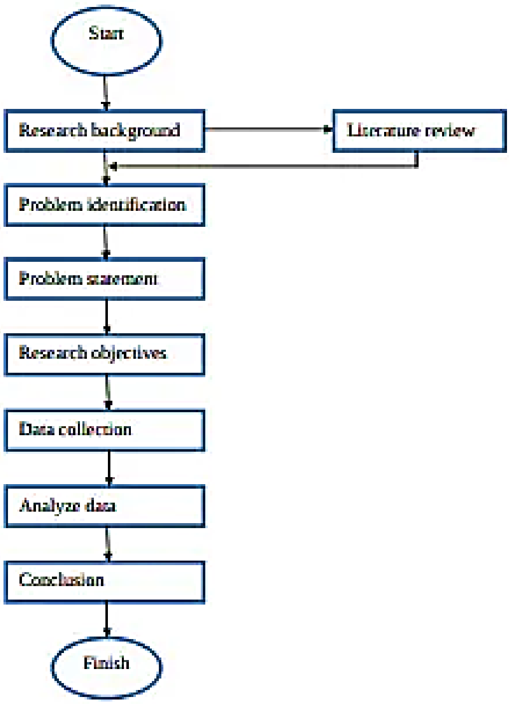


**Figure 1:** Flowchart showing the methodology of research design (Source: Author)

**Literature study**

Vaastu Shastra as an applied science evolved continuously over a period of at least 2500 years, producing a large number of texts like 'Kashyapa Shilpa Shastra, Brihat Samhita, Viswakarma Vaastu Shastra, Samarangana Sutradhara, Vishu Dharmodhare, Purana Manjari, Mayamata, Aparajitapccha, Silparatna Vaastu Shastra, etc. Some ofthe great sages, originators, teachers and preachers of Vaastu Shastra are Brahma, Narada, Brihaspati, Bhrigu, Vasistha, Vishwakarma, Maya, Kumara, Anirudha, Bhoja, Sukra and others' (Rao, 1995, pp. xi–xii). The epics Ramayana and Mahabharata have ample evidence of Vaastu Shastra. In Mahabharata, Mayasabha was built by Maya; Indraprastha and the city of Dwarka were built by Viswakarma *(M. Banerjee, B. Goswami, 1994)*. The references of these two great traditional architects, Viswakarma (of the Aryans) and Maya (of the Dravidians) are found in both epics. The rituals associated with architecture are described in the later Vedas, Sutras, Puranas, Tantras, Vaastu Vidya and their compilations till the fifteenth century AD, and are part of the construction process till today *(T. Bhattacharya, 1986)*

The term 'Vaastu' has been defined by different authors in different forms. The word 'Vaastu is derived from the root word vas, which means, to dwell' *(S. Kramrisch, 1976)*. Atharva Veda further refers to houses of varying shapes and sites. It also refers to a 'mistress of building', whereas Rig Veda refers to a lord of the house (Vastospati) *(D.N. Shukla, 1993)*. Manasara defines 'Vaastu as residence of god and man' (Acharya, 1981). 'This includes the ground (Dhara), the building (Harmya), the conveyance (Yana) and the couch (Paryanka)' (Acharya, 1979) see also *(D.N. Shukla, 1993)*. Mayamata defines Vaastu as 'Bhu (earth), which is underlying stratum of existence' *(S. Kramrisch, 1976)*; according to him, 'Bhumi (earth) Prasadas (structure) Yana (conveyance) Sayana (furniture) constitute Vaastu' *(D.N. Shukla, 1993)* & *(D.M. Rao, 1995)*.

Vaastu is a science of direction that combines the five elements of nature and cosmos, ultimately balancing with man and the material. This mysterious science unifying the five elements also called 'Panchbhootas'- earth, fire, water, sky and space and paving a way for enlightenment, happiness and prosperity. Energy is essentially emanated by two forces- the five elements and the electro-magnetic energy generated by the rotation of earth. Sun, air and space are universally available and can be molded in accordance with the ever-changing human needs by the act of design. In order to thoroughly understand the act of design with these five elements there is a need to discuss these elements in detail.

1. **Earth-** Earth (prithvi) is the most important element in Vaastu and Influence human lives in every way. The first and foremost element of nature which exerts maximum energy. It is necessary to consult the land you are purchasing, as plot's soil, area everything matters in Vaastu. The selection of site is considered very important in Vaastu element. A detailed inspection of soil, plot, site, shape and size has to be done before commencing the construction.
2. **Water-** Water (jal) is present on earth in the form of rain, ocean, sea and rivers. It is the second foremost element considered in Vaastu. Vaastu provides proper directions for the placement of water sources. Water is an element of north- east. As far as the flow of domestic water is concerned, it should be drained out of north-east only. The water bodies such as swimming pool and aquarium etc need to be made in north-east, this direction is auspicious and suitable for water
3. **Fire-** Fire (agni) is considered as an element of south-east. In a house kitchen fire or electrical gadgets shall be place in south-east. Light is the essence of life, and sun is the natural light giver. Fire is the basis of all sources of energy including thermal power and atomic power. There should be proper ventilation for sunlight being necessary and natural source of light for human beings.
4. **Air-** Air (vayu) is a necessary thing for all of us living on this earth. In Vaastu air is another important element which is considered before applying it. Air is an element of north-east. Air consists of various gases on earth like oxygen, nitrogen, helium, carbon dioxide etc. A balanced percentage of different gases, atmospheric pressure and humidity level are important for living beings on this earth. There are important directions for windows and doors in Vaastu so as to receive a good amount of air.
5. **Space-** Sky is never ending and our space is full of constellations, galaxies, star, moon, sun and all the nine planets. It is also called universe which is known as 'Brahamand'- the place of God. Space has a very important place in our lives and Vaastu gives different directions for better space. Indian houses used to have open space in the centre of the house. Akash is a brahmasthan which should be an open place, any disturbance related to space in house would lead to detrimental results.

We are living in an unsteady universe that is moving continuously, for which it requires a huge amount of energy and this energy holds every material present in the universe. Similarly, a man on the earth is tied with nature, and nature is tied with different energies and forces influencing the earth.

1. Solar Radiation
2. Magnetic Field of Earth
3. Gravitational Force
4. Intensity and Wind Direction

Every material present in the universe radiates some amount of energy and these energies or forces are influenced by the earth, individually or by combining with each other forming a web of energies.

| Directions | Deity | Effect | Spaces |
|---|---|---|---|
| North | Kuber | Wealth & prosperity | Living room, seating, office, entrance |
| North-East | Ishwar | Religion & trinity | Puja room, well, underground water tank |
| East | Indra | Progress & growth | Entrance, guestroom, verandah, bathroom |
| South-East | Agni | Energy, vigour & strength | Kitchen, generator, power supply |
| South | Yama | Death | Back yard, kitchen garden |
| South-West | Nairut (Demon) | Purity & cleanliness | W/c, toilet, septic tank, washing area |
| West | Varun | Water | Overhead tank, study room |
| North-West | Vayu | Air/Wind | Bed room |
| Above | Brahma | Spiritual knowledge | Courtyard (O.T.S.) |
| Below | Ananta | Resources & worldly pleasures | Basement |

**Figure 2:** Deities responsible for directions, their effects and suggested spaces

(MRS. RUCHIKA SHARMA, 2020) in her research states the 5 core principles of Vaastu Shastra as:

1. Doctrine of orientation: Directions have the more importance i.e., East, West, North, South. It depends on the sun rays which is a rich source of Vitamin D.
2. Site Planning: Here the design of house is decided according to direction of movement of sun
3. Proportionate Measurements: Standard of measurement should be done as per Vaastu.
4. Six Rules of Vedic Architecture: six main component part of the building : Aadhistaana (Base), Stambha (Column), Prastara (Entablature), Karna (Wings), Shikhara (Roof), and Stupa (dome).
5. Aesthetics of the building: Chanda is the structural aspect of building, mainly it is rhythmical disposition is like that of poetry. Rhythm evokes a reality and measure builds it up.

Further analysis will focus on the pivotal relationship between Vaastu and climate.

## Analysis and Discussion

Vaastu has unavoidably been a highly contested topic in the construction industry, but the fact of the matter is that, to this day, a sizable portion of people continue to believe in its influence on their lives. Lack of a Vaastu-compliant physical environment causes worry about losing wealth, health, and relationship harmony, which has an impact on the tenants' and owner's general wellness. This is more relatable to the psychological aspect of one's mind as to how one conceives the spatial forms.

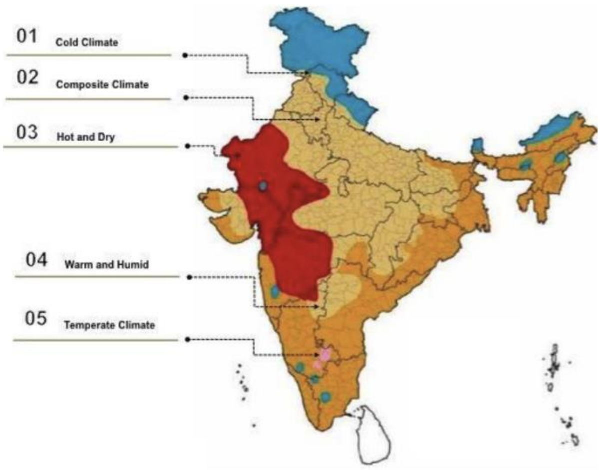


**Figure 3:** Map of India indicating five climatic zones (Source: ECBC 2007)

When we delve deeply into the history of Vaastu, we discover that it was created to help people construct their homes during a time when skilled service providers were scarce. It was made up of regionally specific rules that, when followed, guaranteed the establishment of peace. Many of our tasks and activities were previously managed by the position of the sun and strategically set so that each work received the ideal atmosphere that it required when there was no power.

As a result, some of this old knowledge can still be used to achieve energy efficiency today. Let's examine some spatial Vaastu principles that can be used in the layout planning process and are supported by climatic knowledge. It may be simpler to carry out some of the activities once you comprehend the science underlying them.


**Figure 4:** Developing a plan according to Vaastu Purusha Mandala

According to the sun path, the south-east direction receives 50% of direct sunshine in the morning which is beneficial to health and provides the right amount of heat to keep both cooked and uncooked food materials fresh at room temperature. In the tropics, extreme heat or cold that eventually results in wetness is not the best environment for food storage because it might cause contamination. The most solar heat is received in the south-west, west, and north-west, which are the less hindered locations during the day.

In the evening, chilly winds take the place of the heat. The bedrooms are the perfect place to spend the night. Additionally, the restrooms are located on the south and western sides to help dry out these damp areas that could otherwise result in the growth of unclean conditions.

Diffused sunlight is exactly what living spaces need, and north receives it all day long. Hindu mythology claims that the morning rays from the north-east contain positive cosmic energy, which supports the location of the puja chamber there. The house's staircase and any cabinets or wardrobes should be placed on the south or west walls, which operate as a barrier against the conductive heat that enters the building through these sides.

Depending on the sun path the sunlight received in each direction can be described as follows:

| Direction | Summer | Winter |
|---|---|---|
| East (Semi Shade) | 25% | 15% |
| South (Sun) | 70% | 50% |
| West (Semi Sun)<br>North (Shade) | 50%<br>Diffused Light | 30% |

**Figure 5:** Cardinal directions and amount of sunlight received

Considering the various climatic contexts, the elements and principles of Vaastu changes even if ever so slightly, which might bring about a significant impact on the spatial composition.

In areas bearing hot and dry climate, as per the guidelines of Vaastu, the penetrating and harsh UV rays from the sun, one should try to keep the southern part of the house or other premises as dark as possible. This is more essential, because during the summer season, Vaastu guides you to keep your body and abode cool. Vaastu helps in protection against the hot directions of the south and west, which receives penetrating hot vibes that can make you uneasy. In areas where the temperature remains hot for most of the year, the above phenomena is apparent and may be felt, but as per Vaastu logic, the same rules and regulations should not be obeyed blindly in areas experiencing cold climate. Thus, here are few Vaastu guidelines which may be helpful to welcome positive vibes into one's abode. Though they may appear to be very minor, they are the essential balancing techniques of Vaastu through which one can enhance positive energy.

Shred all heavy, dense plants and trees grown in the southern part of the building and let the bright sun rays enter. For a positive reception of heat from the sun, one may slide heavy curtains spread on the southern and western window panes, open maximum number doors and windows to let the bright daylight enter the house. Walking on grass covered with dew, provides many health benefits. Though normally, Vaastu does not appreciate balconies facing southern and western directions to sit out in summer. However, during the winter season, one can spend a few hours a day during daytime in the southern and western parts of the building to enjoy the warmth. Remove the temporary sun shades from all the balconies of the south, west and south-west directions. Declutter the entrance area and boost it with aromatic substances like flowers or scented showpieces and do away with dried leaves, dead plants, cracked flower vases and other dead elements. Days are smaller in the winter and you must receive the maximum amount of positive energy from these few hours. Therefore, try to pass sometime in the home lobby, which is generally placed in the middle of the house called the bramha-sthan as per Vaastu Shastra. The energetic environment is always high here. Vaastu advocates living in harmony with nature, so avoid artificial means of getting heat or hot air. Go nearer to nature and see that every need is fulfilled by it. If one is using any artificial means of heating up or a humidifier is unavoidable, use the south-east direction of the room or hall. This direction is called the 'agneya' direction or the fire zone according to Vaastu. However, if there is no provision of using these heat related gadgets in this zone, you may use the north-west zone which is known as the 'vayu' region or air corner.

Climate usually changes in accordance with sun exposure. Some regions are hotter because they receive more sunlight and for longer. In other regions, where the sun in scarce, such as the poles, cold is what is common. The fact that the Earth rotate on its own axis, from West to East, is the reason why it is daytime in some regions of the planet, while at the same time it's nighttime elsewhere, depending on what side is being shown to the sun. The planet's orbit around the sun is the reason why we have seasons. As the planet is 23.5 degrees tilted on its axis, this is the reason why the climate in the South hemisphere is the opposite to the North in the same time of year. This clarifies the notion that no two different places on Earth are receiving the exact same energies at the same time. In areas having humid climate, Vaastu recommends maximum utilization of balconies and plants. This is an effective way to allow ventilation. The judicious use of shading devices such as louvres are of paramount importance while designing in any place having humid climate. The moisture content of air is always high for these places.

Thus, it can be safely said that Vaastu guidelines or principles do not change a great deal with respect to different climatic zones but there are obvious changes which if implemented can be easily applicable. This study shall enable and promote future research on drawing up a framework to determine Vaastu guidelines for various climatic zones. This area of research possesses a huge potential of endless possibilities in order to garner positive energy and enrich the lives of people through their dwelling space.



| Climatic Zones | Architectural Design considerations | Vaastu considerations | Percentage |
|---|---|---|---|
| Hot & Dry | 1. Compact for mutual shading with small open spaces<br>2. Minimum Perimeter to Area ratio, Shaded and semi covered areas as buffers<br>3. Shaded Courtyards, Fountains, water channels, wind towers/catchers, earth air tunnel, Terrace/Roof gardens, window planters<br>4. Longer facades facing North South, primarily to minimize heat gain<br>5. minimum S/V ratio<br>6. Flat or Shaded roofs to minimize heat gain<br>7. Small Openings to prevent wind carrying sand, shaded to cool hot breeze. High level heat vents<br>8. North facing primarily, also sunny spaces for winter sun<br>9. Shaded Fenestration, Low E Value Glass, Louvers, sun breaks | 1. The southern part of the house or other premises as dark as possible.<br>2. This is more essential, because during the summer season, Vaastu guides you to keep your body and abode cool.<br>3. Vaastu helps in protection against the hot directions of the south and west, which receives penetrating hot vibes that can make you uneasy.<br>4. In areas where the temperature remains hot for most of the year, the above phenomena is apparent and may be felt.<br>5. More shaded areas<br>6. Orientation towards north | 66.67% |
| Warm & Humid | 1. Open Planning to promote air circulation<br>2. Minimum Perimeter to Area ratio but shaped and supporting maximum air movement.<br>3. Open courtyards/atrium, balconies, patios, verandahs. Wind Tunnels, Windcatchers to catch breeze.<br>4. Longer facades North South or more preferably oriented as per the wind direction<br>5. S/V ratio to create shaded airy spaces<br>6. Pitched roofs with large overhangs<br>7. Large and body level well-shaded fenestration. Cross ventilation arrangement<br>8. Staggered and in the direction of airflow<br>9. Solar radiation is diffuse. So, shading not important. Flywire net to ward off insects | 1. Maximizing the air movement<br>2. Planning with intermittent open spaces for allowing air movement<br>3. Capturing breeze and optimization of local winds<br>4. Orientation towards the wind direction<br>5. Provision for cross ventilation | 55.55% |

| | | | |
|---|---|---|---|
| Composite | 1. Compact planning, low rise development<br>2. Minimum Perimeter to Area ratio. Mutual shading. Open to monsoon winds.<br>3. Shaded Courtyards, Fountains, hybrid structures (separate summer/ monsoon areas), earth air tunnel, pergola with creepers<br>4. Longer facades facing North South, primarily to minimize heat gain and to catch monsoon winds<br>5. minimum S/V ratio<br>6. Large eaves to shade walls and openings<br>7. Two level small openings. Operable and shaded. Maximum on monsoon windward side.<br>8. Towards south for cold season and towards monsoon winds.<br>9. Shaded openable Fenestration, Low E Value Glass, Louvers, sun breaks | 1. Planning arrangement is in close cluster and dense<br>2. Shading for minimizing sultry sun and allowing monsoon winds.<br>3. Use of shading with plants causing a feeling of calmness<br>4. North-South orientation is predominant to reduce heat gain<br>5. Summers are hot and winters are cold, hence facing is towards southern side | 55.55% |
| Cold | 1. Open spaces to be small but allow south sun.<br>2. Minimum Perimeter to Area ratio for reduces heat loss.<br>3. Sun spaces, Greenhouse, trombe wall, light wells, light shelves, thermal chimney, water walls.<br>4. Oriented for maximum sun, preferably South<br>5. minimum S/V ratio<br>6. Flat roofs to minimize heat loss<br>7. Large glazed areas, unshaded but well-sealed.<br>8. South facing<br>9. Optimum glazing, well-sealed, unshaded | 1. Shred all heavy, dense plants and trees grown in the southern part of the building and let the bright sun rays enter.<br>2. Heavy curtains spread on the southern and western window panes<br>3. Open maximum number doors and windows to let the bright daylight enter the house.<br>4. Though normally, Vaastu does not appreciate balconies facing southern and western directions to sit out in summer. However, during the winter season, one can spend a few hours a day during daytime in the southern and western parts of the building to enjoy the warmth.<br>5. Remove the temporary sun shades from all the balconies of the south, west and south-west directions. | 88.88% |

| | | | |
|---|---|---|---|
| | | 6. Declutter the entrance area and boost it with aromatic substances like flowers or scented<br>7. Days are smaller in the winter and you must receive the maximum amount of positive energy from these few hours.<br>8. Using any artificial means of heating up or a humidifier is unavoidable, use the south-east direction of the room or hall. | |
| Temperate | 1. Open Planning for thermal comfort<br>2. Minimum Perimeter to Area ratio for minimum heat gain.<br>3. Shaded courtyards, Shading devices for fenestration, balconies, Roof gardens<br>4. Longer facades facing North South, primarily to minimize heat gain.<br>5. minimum S/V ratio<br>6. Light roofs with deep overhangs<br>7. Large well shaded and sealed fenestration<br>8. North facing<br>9. Openable windows | 1. Central or planning worth pen spaces<br>2. Courtyards with plants to capture winds and keep cool<br>3. North-South arrangement for longer side<br>4. Shading to allow cooling from the harsh sun. | 44.44% |

**Table 1:** Design and Vaastu considerations for each climatic zone

The table above provides an in-depth analysis of the various architectural design considerations and Vaastu principles in five different climatic zones in India. It is therefore seen that the cold climate has maximum similarities (88.88%) match between the architectural design considerations and Vaastu principles. The hot and dry climate comes next having a match percentage of 66.66%. In-spite of the similarities, Vaastu principles mostly deals with the orientation of the built form with respect to the sun and local wind forms. The optimal utilization of winds and the judicious use of openings and shading is also traced from the principles of Vaastu. Temperate climate has the lowest match with 44.44% mainly due to the fact that the temperature remains similar throughout the year with minimal seasonal variation. It is to be carefully noted that Vaastu principles are based on scientific study and not merely an extension of any religious sentiment.

## Conclusion

There are many principles in the Vaastu Shastra science of architecture that are basically designed regarding the environmental features which through the lack of knowledge have considered symbolic or ritualistic by the later generations. However, the observation of natural phenomena by the ancient philosophers leading to the discovery of laws of nature and their impact on human health is the root cause of the application of the principles of Vaastu and its similar systems of beliefs in other cultures as the sum knowledge, experienced by many generations. Since it is highly believed that the architectural forms have been proposed by the environment and as a response to its orders, which share similar patterns in regions with similar climatic configurations, the rules and principles of Vaastu Shastra can be discovered and applied not merely as a superstitious symbolic guideline, rather as a proper example of using the architectural forms in the context of the environment. Although the technological advancements of today make it possible to warm and cool any area regardless of its climate, the proper use of architectural forms and patterns may lead to sustainable design which decreases the rate of energy consumption as well as making a proper micro climate compatible with human needs which can also stand in complete harmony with the surrounding environment.

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