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Town Planning in Ancient India: In Moral Perspective

Reena Patra
Department of philosophy, Punjab University, Chandigarh, India

Abstract:
This paper is concern with the significance of morality in planning the urbanization where man can improve his conditions by ethically designing and understanding the location, direction and disposition of a construction that have a direct bearing on the human being or human-settlement. In India, the principle of the Varnashrama Dharma develop a social stratification of the people in general and the functionaries of the state, led to a segregation of the classes following different pursuits; and the same caste or people same profession were placed in the ward so that a uniformity of life and consequent economic efficiency and progress were secured. So every site was divided into different blocks or plots, one being meant for each class. It also explores the moral activity concerned with the way in which people live in relation to its surrounding. The key to the individual and social ethics of Hinduism is the conception of Dharma. The affirmative attitude of Hinduism towards life has been emphasized by its recognition of four legitimate and basic desires known as "Purushartha" – Dharma, Artha, Kama, and Moksha. So forth while planning of town, location and surrounding is taken into account and further suggests that planning is the moral framework by which communities and individuals confront their relationship with the environment. Finally, it examines the Chandigarh city plan and discusses the relevance of Vastu Purusha Mandala.

Keywords: Morality, Vedas, Hinduism, Vaastu-Shastra, dharma, Purushartha, Town-Planning

1. Introduction

Morality, which concerns itself with the study of conduct, is derived in Hinduism from certain spiritual concepts; it forms the steel-frame foundation of the spiritual life. Though, right conduct is generally considered to belong to legalistic ethics, it has a spiritual value as well. Hindu ethics is mainly subjective or personal, its purpose being to eliminate such mental impurities as greed and egoism, for the ultimate attainment of the highest good. Objective ethics deals with social welfare, has also been considered by Hindu thinkers. It is based upon the Hindu conception of *Dharma*, or duty related to a man's position in society and his stage in life. Objective ethics, according to Hindu view, is a means to an end, it's purpose being to help the members of society to rid themselves of self-centeredness, cruelty, greed and other vices and thus to create an environment helpful to the pursuit of the highest good, which transcends society.

The caste system in Hinduism is intimately connected with the social aspect of Hindu ethics, demonstrating the importance of renunciation and self-denial as cardinal virtues. The origin of this system is found in the *Vedas*, though it later underwent much transformation in the hands of the Hindu lawgivers. The *Bhagavad-Gita* says human beings are divided into four groups, determined by their actions and virtues. According to the Hindu scriptures, a normal society consists of the *Brahmins*, who are men of knowledge, of science, literature, thought, and learning; the *Khsatriyas*, who are men of action and valour; the *Vaisyas*, who are men of desires, possessiveness and acquisitive enterprise; and lastly the *Sudras*, who are men of little intelligence, who cannot be educated beyond certain low limits, who are incapable of dealing with abstract ideas, and who are fit only for manual labour. In the *Vedas* the four castes are described as four important parts of the body of the cosmic person: the head, the arms, the thighs (or the stomach), and the feet. This analogy suggests the interdependence of the four castes for the common welfare of all. The basis of the caste system according to the Hindu view is men's self-evident inborn quality, physical, intellectual and spiritual. An individual is born into a higher or lower caste as a result of actions performed by him in his previous life, and each person, therefore, is himself responsible for his position. By discharging his duties determined by his caste, a man becomes qualified for birth in a higher caste in a future life. If one does not accept the doctrine of rebirth and the *law of Karma*, then the inequity from which members of lower castes often suffer cannot be explained (Shukla 1993: 277).

2. Origin of Vedic Architecture

Indian culture and civilization has survived thousands of years because it is based on the strong foundation of the wisdom known as "*Vedas*". Man can improve his conditions by properly designing and understanding the location, direction and disposition of a building that have a direct bearing on the human being. The experience of many generations has proved that the planning of the villages, towns, cities and capitals of ancient India which were considered best as it gave health and peacefulness.

Vaastu Shaastra is an ancient Hindu knowledge of architecture, which finds its origin in *Vedas*. The *Vedas* are the most ancient sacred scripture of India. There are in fact, four Vedas—the *Rig* Veda (hymns or verses), *Yajur* Veda (sacrificed formulas), *Sama*

Veda (melodies of the chants) and *Atharva* Veda (spells and incantations for the practice of magic). These Vedas have their four supplementary Vedas (*Upa* Vedas). Among the four *Upa* Vedas, *Sthapatya* Veda deals with architecture. *Vaastu Shaastra,* the ancient science of designing and constructing buildings is, thus, a part of *Sthapatya* Veda, considered as an applied knowledge, subordinate to the *Atharva* Veda. This ancient knowledge of designing and constructing building finds its origin in *Sthapatya Veda*, which is a part of *Atharva Veda* (the fourth Veda).

In *Vaastu-Shaastra* the plot for residences were allotted profession wise:

- The *Brahmins* –the priest   The North
- The *Kshatriyas*- the warrior class   The East
- The *Vaishyas*- the business class   The South
- The *Sudras*   - the lower class   The West

Following the above general survey of the land, the site is then judged against the categories of its attributes as a *Brahmin* site, a *Kshatriya* site, a *Vaishya* site and a *Sudra* site (Dubey 1918). A *Brahmin* site brings happiness, a *Kshatriya* site gives power, a *Vaishya* site generates wealth and a *Shudra* site is associated with toil and is an inferior site (Jha 1971:16).

A *Brahmin* site is square in shape, whitish in hue, and without defects. It gently slopes down towards North. The taste of its soil is sweet, and the land fragrant. The sweet taste is associated with the planet Jupiter that signifies wisdom, happiness and spirituality, which are the associated attributes of the *Brahmin Varna*. Jupiter and Venus are the ruling planets of *Brahmin Varna* (Bhat 1967). The color white is associated with the Northern direction. Such a site brings good fortune. A *Kshatriya* site is a rectangle, where the length exceeds the breadth by its eighth part ($L = B+B/8$, where L is length and B is breadth). It is of a blood red hue, and slopes down towards the East. Its soil is bitter and has an astringent taste. The bitter taste is associated with the planet Mars, which is associated with the color red. The Sun and Mars are the ruling planets of the *Kshatriya Varna*, signifying velour, courage and strength. Red is also associated with the eastern direction. Such a site brings success. A *Vaishya* site is a rectangle, where the length exceeds the breadth by its sixth part ($L=B+B/6$). It is of a yellowish hue, and its soil tastes sour (Chakrabarti 1998: 132-133). Yellow is associated with the southern direction ruled by the *Vaishya Varna*. Although, *Mayamata* (II. 10-15) (Dagen 1985) and *Manasara* (III. 18-30) (Acharya, 1979) recommend an eastern slope for the *Vaishya* and *Shudra* sites too, *Rajavallabha* (I. 17) and *Brihat Samhita* (LIII. 91) (Bhat 1987) recommend a southern slope for the *Vaishya Varna*. Sour taste is associated with the planet Venus. Such a site has a beneficial quality. A *Shudra* site is a rectangle where the length exceeds the breadth by its fourth part ($L = B+B/4$). Its soil is black and pungent in taste, associated with the planet Saturn. Saturn rules the western direction, and *Shudra* site slopes down towards the west. Such a soil produces riches and grains.

In India, the principle of the *Varnashrama Dharma* develop a social stratification of the people in general and the functionaries of the state, led to a segregation of the classes following different pursuits; and the same caste or people same profession were placed in the ward so that a uniformity of life and consequent economic efficiency and progress were secured. Hence, every site were divided into different blocks or plots, one being meant for each class (Shukla 1993: 281).

3. Purushartha - Dharma, Artha, Kama and Moksha

The key to the individual and social ethics of Hinduism is the conception of *Dharma* which means "duty" or "righteousness". The affirmative attitude of Hinduism towards life has been emphasized by its recognition of four legitimate and basic desires: **Dharma** or righteousness is the basis of both individual progress and social welfare. **Artha,** wealth, is legitimate; money is indispensable in the present state of society. Man in this world without money is failure. Furthermore money is needed to build hospitals, schools, and educational institutions etc., which distinguish civilized from a primitive society. Money gives leisure, but money must be earned according to *Dharma*. The object of third legitimate desire is **Kama,** or enjoyment of sense pleasure. This covers a vast area – from the enjoyment of conjugal love, without which the creation cannot be maintained to the appreciation of art, music, or poetry. Life becomes dull unless one cultivates aesthetic sensitivity. But sense pleasures, if not pursued according to *Dharma* degenerate into sensuality. The fourth legitimate desire is related to **Moksha,** or freedom from the love and attachment prompted to the finite view of life. Man, who in essence is spirit cannot be permanently satisfied with world experience. After fulfilling his entire world desires and responsibility, a man still wants to know how he can suppress his inner restlessness and attain peace. So at last he gives up attachment of world and seeks freedom through the knowledge of the spirit. *Dharma* or righteousness, *Artha* or wealth, *Kama* or sense pleasure, and *Moksha* or freedom through communion with God or the Infinite of these three belongs to the realm of worldly values; the fourth (*Moksha*) is called supreme value. The fulfillment of first three paves the way for *Moksha* (Dwivedi 2000: 14).

- *Dharma* (religion): A man should have religious belief. Spiritual and inner (soul) happiness should be felt by the people living in the house. The people, living in that house, should be rid of the distresses related to physical, divine and spiritual forces.
- *Artha* (wealth): A person should rise and prosper with increase in wealth, the moment he enters the house that is *Griha-pravesha*. It should not lead a man to continuous debts after construction of the house. A house is considered as worthless and bad if a person becomes bankrupt economically. Opposite of this lies the worthiness and meaningfulness of a house, which increases the source of income, glory and fame of the occupant.
- *Kama* (desire): Much happiness and pleasure of life should be associated with a person. There should be increase of sons and grandsons, along with increase in his pleasure, prosperity and material happiness. The fruitfulness and meaning of a house lies when a person's wife, and kids abide by him and give him respect.
- *Moksha* (salvation): An auspicious *Vāstu* leads a person to *Moksha*. Right behavior of a good family, leads to regal attainment. *Vāstu-Shāstra* helps a man to acquire these four objects.

Hence its utility is indescribable. According to religious opinions – the land must be examined and worshipped. Land – worship and foundation – worship should be performed at an auspicious moment before house construction (Dwivedi 2000: 14-16).

4. Fundamental Principles of Vaastu Shastra

Vaastu Shastra is essentially an art of correct setting whereby one can optimize maximum benefi ts of the *Panchbhutas*(five elements) of nature, earth's magnetic field and the rotational influence of the sun, moon and the other planets surrounding the earth, It has laid down several principles for constructing buildings. The fundamental principles of *Vaastu Shastra* are applied in constructing buildings such as houses, commercial complexes, industry layouts, towns, temples etc. There are five basic principles on which the great edifice of the *Vaastu* science of architecture stands. They are

- the doctrine of orientation;
- site planning;
- the proportionate measurement of building;
- the six canons of Vedic architecture;
- the aesthetics of the building.

4.1. The Doctrine of Orientation

In Indian thought, the cardinal directions hold a particular significance. The various associations given to the eight cardinal directions (northeast, east, southeast, south, southwest, west, northwest and north) help elucidate the orientation principles of *Vaastu Shastra* (Chakrabarti 1998: 101–102).

The theory of orientation of buildings is secular as well as ecclesiastical, as laid down by Indian designers of structures, which consists in setting them in such a way that they may get maximum benefi ts from solar radiation. The fixing of cardinal points thus occupies a prominent place in *Vaastu Shastra.*

4.2. Site Planning (Vaastu-Purusha-Mandala)

Vaastu Shastra lays down various guidelines for choosing the proper site (Patra 2007). It emphasizes strongly the examination of the soil, size, shape, taste, colour, and smell and vegetation features of the land. If the plot of land is found to be satisfactory on all these criteria, then it is selected for the purpose of building a house, village, industry, town, fort etc. After the selection of land, the blueprint of *Vaastu-Purusha-Mandala* is provided for the grid that facilitates the inception of the design, and in addition to being the 'architect's square pad', where the concepts crystallize, each of its lines and divisions holds within it layers of meaning within which the intricacies of design unfold (Figure 1).

4.3. The Proportionate Measurement of Building (Maana)

The third basic principle of Vedic architecture is *Maana*, the proportionate measurements. The measurements are divided into six categories – measurement of height, breadth, width or circumference, measurement along plumb lines, measurement of thickness and measurement of inter-space. The role of *Vaastu Shastra* in the system of measurement is to achieve harmony between the absolute and the quantifiable. Measurement mediates fi nality to an architectural concept, similar to the spoken word, which provides a frame over which the canvas of thought is stretched. Measure 'fi xes' as well as 'evaluating' (Chakrabarti 1998: 35).

4.4. The Six Canons of Vedic Architecture (Aayaadi-Sadvarga)

There are six main components of a building, base (*Aadhistaana*), column (*Paada* or *Stambha*), entablature (*Prastaara*), ear or wings (*Karna*), roof (*Shikara*) and dome (*Stupi*). The *Ayaadi* formulas1 are some of the aspects analysed to assess the qualities of the house (*Guna*). In short, *Aaya* means measurement of building = length × breadth (Shukla 1993: 211–217).

4.5. The Aesthetics of the Building

Aesthetics as a branch of philosophy deals with the nature of beauty. Applying aesthetic considerations to buildings and related architectural structures is complex, as factors extrinsic to spatial design (such as structural integrity, cost, the nature of building materials and the functional utility of the building) contribute to the design process. Notwithstanding, architects can still apply the aesthetic principles of ornamentation, texture, flow, solemnity, symmetry, colour, granularity, the interaction of sunlight and shadows, transcendence, and harmony. In Indian tradition, beauty is considered as *chanda* (moon); the structural aspect of building and its rhythmical disposition is like that of poetry (cf. Shukla 1993:180–211).

These traditional principles contour buildings in multifarious forms, structures varied from one another to suit the different classes of buildings, to satisfy different functions, and they never present an identical view. As a result, *Vaastu Shastra* has been described as a body of knowledge, which has been sustained, developed and modified by successive generations of architects through many centuries. It implies a tradition of knowledge that has, at various times, been ordered and expressed (and so is handed down to us) in a range of texts, with a variety of titles.

5. Vaastu-Purusha-Mandala

Vaastu-Purusha-Mandala is considered a model of the Universe and provides the basis for architectural design. It is a metaphorical expression of the plan of the Universe and depicts the link between people, buildings and nature. Here *Vaastu* means environment, site or a building. As a concept, it extends to include a village, town, a country or indeed the whole earth in all its manifestations. When a building is in a perfect state or order, it is viewed as a *Purusha*, the 'man' of the universe, representing pure energy, soul or consciousness; a kind of creative intelligence in the universe. *Mandala* means a diagram. It relates to

orientation because the earth is essentially demarcated by sunrise and sunset, by east and west, north and south. It is known as *Vaastu-Purusha-Mandala* because the name consists of three parts: ***Vaastu +Purusha +Mandala.*** As a rule its shape is square, which is the fundamental form of Indian architecture. The square form of *Vaastu-Purusha* can be converted into a triangle, hexagon, octagon or circle of equal area and retain its symbolism. Once the orientation of the site is established, the *Vaastu-Purusha-Mandala* or the ground plan is superimposed on the site. The *Vaastu-Purusha-Mandala* was so universal that it could be applied to an altar, a temple, a house, a city or the entire cosmos. Thus, *Vaastupurusha* is the form of human in a planned site characterized by the symbols of zodiac signs, constellations and planets, which represent the entire solar system, and make the site, house, palace, village, city etc. a micro-cosmic aspect of the macro-cosmic *Purusha* or *Vaastupurusha* (Kramrisch 1976; Shukla 1993).
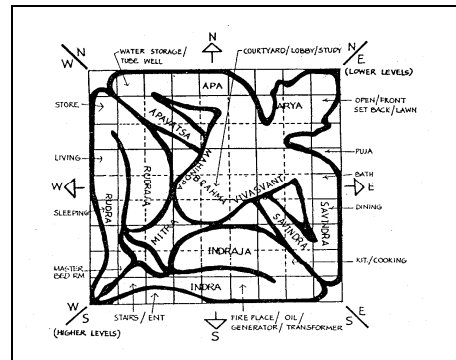

Figure 1: Vaastu-Purusha-Mandala

The *Vaastu-Purusha-Mandala* adopts the shape of the site, and this functional attribute of the *Mandala* active in the mind of the designer in its ideal form of a square, acquiring a different shape in reality, is a primary example of its inherent flexibility. Not only does it adapt to the site constraints, but also it adopts the parameters of design requirements of contexts as diverse as the hot-and-arid state of Rajasthan and the wet-and-humid state of Kerala, as well as the variations in building materials, functional requirements and the social and political context in which it is used (Chakrabarti 1998:63).

It has been found that the buildings built in accordance with the rules of the *Vaastu-Purusha-Mandala* have proved conducive to health of a building (Dubey 1987). In other words, the health of the inmates of the house is safeguarded. Our health is maintained, if we follow the rules of diet consistent with the rules of Nature. In the same manner, the health of a building or *Vaastu* can be maintained if the construction is made giving due regards to the principles of nature. The limbs in a body should invariably be in their proper places. So much so, the rooms in a house should be designed in their proper places. That will keep the house healthy and thereby the inmates happy (Vasudev 1998: 37-42).

We have to bring into harmony the common values, moral codes, individual beliefs, ideological convictions, economic conditions, social obligation and cultural symbolizations coupled with a view to have a peaceful place for offering prayers and to pursue peace and to live in common harmony. An imperfect person, after getting exhausted in the pursuit of worldly pleasures, begins to think of God and seeks his favors to obtain his social needs. He makes repeated efforts in this task and the process that he so adopts is called the "*Religion*". It is a system of thought, feeling and action, which is shared by a group giving any of its members an object of devotion and a code of behavior. Truth is one though the wise may describe it in many ways proclaims *Rig Veda*. Religion insists on the strict adherence to righteous values by its votaries in all sincerity and the avoidance of what is prohibited in the prescribed moral codes (Curtis and Doshi 1988). Many people in this material world in their hunt for happiness try to acquire wealth both movable and immovable without fully knowing that the entire world belongs to Him and the man has taken birth in this world only as the trustee of God with certain duties to perform. Everyone should endeavor to realize this. It is not only important to acquire land, build living and working places, but also work, earn a livelihood and live strictly in accordance with the ancient scriptures, traditions and *Dharmashāstras* (Rao 1995: 202).

Vaastu Shāstra in its turn pre- supposes the antiquity of Town- Planning in ancient India, as Town- Planning has invariably formed a principal topic of every important treatise of *Vāstu Shāstra*. Moreover some of the most renowned excavations of ancient Indian sites like Harappa and Mohenjodaro etc. have highlighted on this ancient Indian civic art and most refined civic sense of our ancestors. The buildings discovered at the different strata of Mohenjodaro may be classified under the following heads: (1) dwelling- houses (2) public baths of religious or secular character (3) temples of some kind and (4) raised platforms possibly tombs (Shukla 1993: 51).

6. Town Planning

Town planning is a civic art and civil architecture. The planning of town, a habitation, villages, fort, city or any other variety of group residences, should take into account its location first-situation and surrounding climate and soil. The first essential of town planning is to examine the soil. An ideal town must have a green belt of forests where tall trees, plants, flowers are found in abundance. This is necessary not only from the point of view of healthy climate but it is also conducive to the growth and maintenance of the population requiring fruits, fuel and fodder. Moreover, the natural scenery of this green verdure must add the beauty and the grandeur of the town. For a town, the site should be selected at the bank of a river, seashore or lake. Milky trees, fruits and flowers should surround the site. The Eastern side of the town should be lowered to get sunrays on the door fronts. The

site should not be selected on the western side of a mountain. The capital of the state should be selected at the center of a town (Shukla 1993: 261-263).

6.1. Shapes of Town

Vaastu Shaastra recommends five shapes of towns; (1) *Chandura* (square); (2) *Agatara* (rectangle); (3) *Vrtta* (circle); (4) *Krtta Vrtta* (elliptical) and *Gola Vrtta* (full circle). A city resembling *Vajra-suci* or a diamond (octagonal) should be regarded as inauspicious (Dwivedi 1988). If the front part of the city is in the shape of a bow, it is very good and auspicious. The *Agni-purana* recommends highly the semi-lunar shape of the town. The holy city of *Banaras* is situated on the convex side of the Gangetic belt and presents a semi-lunar phase. *Nanjangud* town near Mysore also is situated on the convey side of the river *Kapila*. The *Matsya-purana* says that the semi-lunar shape of a town is not auspicious. The development of industrial factories at *Nanjangud* brings the shape of the town to a semi-lunar aspect. The factories may become sick (Bedge 1978).
In a hot country like India, southerly inclination would bring too much exposure to sunrays. The monsoon wind and rain in India are from south and west. Therefore, if the ground is sloped towards that direction, the houses there will be dangerously exposed to every storm. The engineer should consider the weather records of the area for the past ten years in designing any building. In the consideration of the weather data, such as wind velocity and its direction, rainfall, evaporation, humidity of the area, sunlight and maximum and minimum temperature etc, if we design the building, it will satisfy most of the specifications of *Vāstu* (Bedge 1978).

6.2. Site Selection

Vāstu Shāstra has laid strong emphasis on the selection of a proper site for establishing a new village, town or a city. The sites are generally classified under three categories: (Rao 1995: 84).

- Barren land used to be called as *Jāngala*, where wind is hotter and the soil is black.
- Secondly, *Anupama*, ascribing for a beautiful is fresh and cool with the soft characteristic being humid and cool.
- Thirdly, *Sādharana* category used to be given to average quality where huge stretches of land existed in village was essentially distributed all round the capital city holiday equidistance and methodologies in controlling their physical sprawls coupled with human population and building densities. *Sukrāchārya* had the remarkable intelligence in saying that capital city should be placed in such a local geographical position where various kinds of trees, water bodies, rivers, plants, shrubs, green vegetation cover, including cattle should be present in great number. The *Mānasāra* describes that the sites for establishing a city should be determined from its smell, taste, shape, direction, sound and touch. The topography should have inclination towards East and North, coupled with higher ground levels in South-West, West and South. If a river adjoins the site it should run from left to right or West to East or South to North.

After the survey of the region and the selection of the site, the first thing for a town-planner is to plan out the roads and streets, lanes and by-lanes together with the orientation of the place so as to make it a fit place for human habitation with ease and comforts, healthy and longevity, peace and prosperity. Laying out the roads and streets is inter-connected with the plotting out of the whole area. Water is a fundamental necessity for life. No life can subsist without a good natural supply of water and hence the rivers, lakes, ponds and tanks are indispensable pre-requisites for the laying out of the town (Rao 1995: 84-87).

6.3. Site Planning

After the selection of land as per *Vāstu*, the sight was ploughed on an auspicious day as fixed by astronomical observation by a pair of specific oxen, which had white spots on their heads and knees. The next step was with determination of cardinal directions using gnomon, which concluded with the fixation of *Vaastu-Purusha-Mandala*. Different kinds of them were used depending upon the need of the application. In fact circular *Vaastu-Purusha-Mandala* symbolized the terrestrial world with constant movement. The square one showed rigidity and thus represented a perfect ad absolute form. The posture of *Vaastu Purusha* has been different aspect of structural requirements. That is to say, *Vaastu Purusha* considered in residential buildings differs greatly in the application of temples construction. *Vaastu-Shāstra* describes 32 ways of constructing *Vaastu-Puruhsa-Mandala*. The simplest one is conceived with square and longest in these characteristics is of 1024 *padas*. The exact size and shape of *Vaastu-Purusha-Mandala* is determined according to the requirements of the building constructions. The *Vaastu Purusha* is the presiding lord of the whole plot. He is said to occupy the plant area in such a manner so as to occupy the whole plot and thus the presiding deities of the square becomes presiding deities of the different limps of the body (Rao 1995: 84).

6.4. Mode of application

In building towns and cities, the architect had to decide first, which *Vaastu-Purusha-Mandala* holds approximation depending upon the size of the town. Thus, fixation of the peripheral limits of a town used to be determined by configuring the alignment patterns of main streets, which resembled the arms of the cosmic cross, attributed to avenues planted with shady trees. This, the longest arm used to be aligned East and West and named after *MāhāKāla* or *Vāmana* (Bhat 1967). The whole *Vaastu-purusha-mandala* used to be fragmented into 81, 64, 49 pads or landed parcels and pushed into different zones. The innermost square or *pada* was called *Brahma*. Different classes of human being occupied different zones or *pada* (Kangla 1965). Central square called *Brahmasthāna* was always occupied either by a temple or a palace (Misra 1975). While planning of roads in the course of conceiving the design for a town or a city, the cosmic cross was used for pinpointing the roads running East to West and North to South representing principal streets. Roads running in the Eastern axis ensured towards purification of the street by Sun rays from morning till evening and the North-South road profiles provided a perfect circulation of the air and benefit of cool breeze (Rao 1995: 84-87).

Some of the most important example of town planning according to *Vaastu* principles was first depicted in *Arthashastra* (Schlingloff 1967; Scharfe 1978) in the Medieval Period known as Pataliputra and Taxila. Another well- known example is the city of Jaipur. Volwahsen (1969) has elaborately explained the geometric interpretations of Jaipur city.

7. Case Study: Chandigarh City
Modern architects have applied *Vaastu Purusha Mandala* in some towns and cities, such as Jaipur. But, let us take an example of Chandigarh city and do a case study. The city of Chandigarh was built by a European philosopher of architecture. In 1950 French architect Le Corbusier was appointed architectural counselor to the government of Punjab for the construction of new capital Chandigarh. Although Le Corbusier followed his own architectural philosophy of the Five Points Architecture, his Chandigarh Master plan corresponds to *Vaastu Purusha Mandala* and this can be seen in the most potent architectural mechanism providing a blueprint for building in *Vaastu-shaastra* legend:

- Capital Complex symbolizes head which is in the North- Eastern direction – coincides with the head of macrocosmic *Purusha*.
- According to *Vaastu*, water place should be in North or East direction. Thus, *Sukhna* Lake occupies East or North-East corner. It is a sacred place for water and also for meditation. It is because the morning Sun rays which is rich in ultra-violet rays kills germs and disease causing bacteria in water.
- According to *Vaastu* principle, studies or worship should be placed in North direction. Here in the map the PGI (hospital) and (4) Punjab University – located in the North direction where the causative planet is Mercury (*Budha*) rules the north direction and this planet Mercury attributed health (treasure of health and knowledge).
- According to *Vaastu* Lord Brahma occupies the center of the place. Thus, the City Center, Sector 17 - is the heart of the city occupying the center of the city. It is a recognized place for administration/assembly and temple of Lord *Brahma* in an ancient city. According to principle this place is known as *Brahmasthan*.
- According to *Vaastu* Northwest is known as the darker side of the plot. So, Cremation Ground is placed in Northwest direction, which was marked for the same purpose and *Chandalikas* in an ancient city.
- Industrial Area according to *Vaastu* is suitably located in South-East belt governed by *Agni*.
- Lastly, according to *Vaastu*, South and West direction is favorable place for living purpose (sleeping, eating etc.). Thus, residential buildings are located in Southwest, South and West zones of the city.
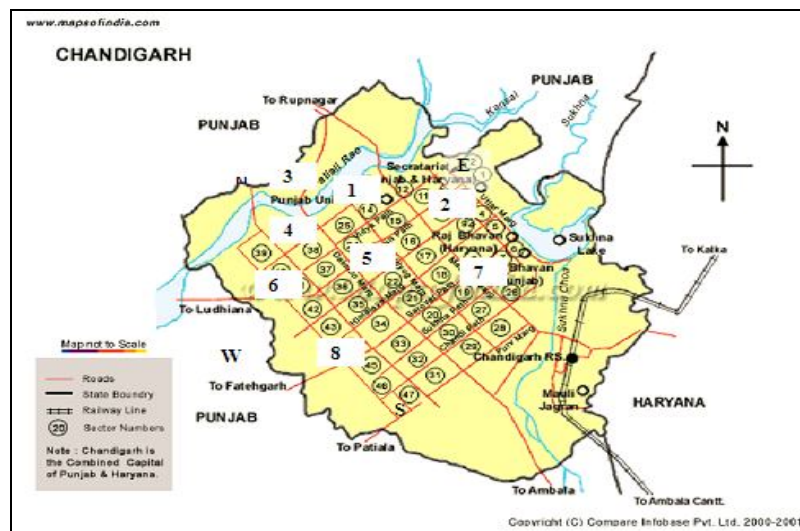

Figure 2: The Chandigarh Master plan overlaid by Vaastu Purusha Mandala – the most potent architectural mechanism providing a blueprint for building in Vaastu-shāstra legend: (1) Capital Complex symbolizes head – coincides with the head of macrocosmic Purusha. (2) Sukhna Lake occupies E/NE corner, a sacred place for water and meditation. (3 & 4) The PGI and Punjab University – located in the North where the causative planet is Mercury (Budha) attributed health (treasure of health and knowledge). (5) The City Center, Sector 17 – occupies the heart of the city. A recognized place for administration/assembly and it is also a place for a temple of Lord Brahma. (6) Cremation Ground – placed in N-W direction, which was marked for the same purpose and Chandalikas in an ancient city. (7) Industrial Area – suitably located in South-East belt governed by Agni. (8) South-West, South and West zones favorably placed for living purposes (sleeping, eating etc.).

The philosophy of *Vaastu Shaastra* – an ancient science based on time-tested scriptures and guidelines, works on the principle that correct placement of various activities of right direction and in the suitable zones under the influence of respective planets, is bound to bring happiness, prosperities and peace of mind. The philosophy applies to any kind of architectural development viz city planning, individual house, factory or business premises etc (Saini 1994).

The orientation of various parts of the city such as the Capital Complex, the *Sukhna* lake, the University area, the cremation ground and industrial area related to the prescribed placement of the text (Chakrabarti 1998: 195). It is described as- The city beautiful stands in contrast to the other cities in terms of its 'orderliness' and 'disciplined development'. Further to it, its positive

response to the *Vaastu-shaastra* i.e. proper archaic-astronomical placement makes it free from all misfortunes and as such the city is bound to flourish (Saini 1994). The "modern architect" in search of his Indian identity, the *Vaastu Purusha Mandala* seems to be the most popular solution that satisfies the urge to "root" the building in tradition. The conscious evasion of the usage of traditional motifs, expressing the strong dislike of visual pastiche, (Tilloston 1989: 136) has led to another kind of pastiche: the conceptual one. The underlying principles of the *Vaastu Purusha Mandala* are as foreign to the Indian architect as the parameters of design an architectural appreciation he employs. Yet the esoteric complexity of *Vaastu Shaastra* has a "magical" appeal that provides a convenient way to the theoretically root the design in tradition, whilst also aborting its usage by limiting to a grid, so that the visual label of "modernity" could be retained (Chakrabarti 1998: 86). The endorsement of the "magic" that the *Vaastu Purusha Mandala* supposedly holds, originates from the very source that forms the basis of architectural education today- the parameters of the "modern" West. For example, in one of the most elaborate and authoritative works on the exploration of the complex symbolism inherent in the concept of the *Vaastu Purusha Mandala* by Stella Kramrisch, the *Mandala* is referred to as a magic diagram (Kramrisch 1991: 35, 67). This description, together with the impressive terminology used, is for an architect who wishes to learn about Indian way of building, overwhelming bordering on being incomprehensible. The scholarly observation that "All existence is reflected in this magic square" (Volwahsen 1969: 44) mystifies the myth which for its traditional practitioner is not separate from reality (Chakrabrati 1998: 86). At the other extreme (utilitarian as opposed to ethereal) is an interpretation and translation of the *Vaastu Purusha Mandala,* as merely ground plans. In order to establish the relevance of *Vaastu Shāstra* as a "science" and to sustain parameters of judgment where in the ultimate analysis a thing that fits in with its functions is beautiful, whether it is a human being or a house, there arise the concept of the *Vaastu Purusha Mandala* as ground plans and site plans (Bhattacharya 1986: 220). This provides templates which have the dual potential of interpretation of old monuments and conceptualization of the new buildings (Parlekar 1959). This epithet of ground plan blurs the difference between the plan of the house based on *Vaastu Shaastra* (which in reality may not be geometrically a perfect square grid), conjectured as based on a *Vaastu Shaastra* because of its geometric similarity with the textual "ground plan". The principles of the *Mandala* coexists with the other principles, of orientation, system of measurement, forms and so son, constituting the *Vaastu Shaastra* programme for architecture (Chakrabarti 1998: 87).

8. Conclusion

Today, in order to implement the stipulated alignment of timber according to the orientation of the tree it is cut from, the architect or the builder would have to go to the forest in search of the 'auspicious' tree and cut it in 'auspicious' circumstances. And, really there is no limit to the extent to which the 'auspiciousness' can be occurred if one major reason for the growing popularity of the concept is its tempting promise of a convivial lifetime. Evidently the purpose of the consultants is about solving the miseries of present day urban life style, without disturbing and sacrificing the images that represent modernity. No doubt, people are, nowadays, well aware of the modern planning concepts, the dramatic architectural configurations, the revolutionary range of building materials available in the market. Man now builds houses, which are vastly different from the type of houses his ancestors built hundred years ago or for that matter just ten years ago. Adopting newer and newer technologies man has improved the quality and decor of the house. This superior house building ability of man is due to his ability to think analytically, fabricate and use materials and tools, innovate technologies, invent engineering methods and exploit natural resources. But those, which have remained alive, constant and uncontested throughout the ages, are the basic principles of our *Vaastu-Shaastra* and other great scriptural texts of India.

But our present day rulers and planners look towards West for light and guidance forgetting altogether our technical heritage. Our *Sthapathya* was very much scientific, very vast and has not left any aspects of building uncovered. The fundamental basis of planning is purity and this purity includes sanitation, light and ventilation; the prime necessities of life, which can very well be provided in the buildings designed as per *Samarangana Sutradhara* or any other ancient texts. Many may question the relevance of the norms for building houses and good human conduct and other law contained in ancient religious literature to the modern period where circumstances have changed entirely. How can the instructions given by sages and seers be valid now, they may ask. Such arguments can be countered by saying that, the commands like "utter the truth", "obey parents and teachers", "respect the law of morality", are of value for ages. Rules relating to ethical warfare too cannot be said to be obsolete. If there was a blatant violation of the law of righteousness, a representative of the ruler intervened to prevent injustice. This holds good even today. The *Ramayana* and *Mahabharata* amplified the *Vedic* revelations and demonstrate the good that accrues out of implicit obedience to these codes. Thus, the sacred task of architecture can be entrusted only to an architect of high moral character. In its absence he is susceptible to anger, envy, jealousy, greed, attachment, and confusion which are great, hurdles in the evolution of a true and auspicious art, the only aim of the knowledge of architecture.

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