



## ***Kautilya Arthashastra and its relevance to Urban Planning Studies***

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### **Abstract**

*The knowledge of the traditional practices is being highlighted for resolving many issues in the present day context related with the survival of human settlements. There exist very few records and testimonies of urban planning practices in India and the ones, which are available, need to be properly understood. This article is an attempt to appraise one such master treaty, the Arthashastra, and bring forth some of its salient features pertaining to urban planning policies in ancient times in India.*

### **1. INTRODUCTION**

The Hindu philosophy prescribes four great aims of human life viz. *Dharma, Artha, Kama* and *Moksha* which encode the essence of moral well being, material well being, achieving worldly pleasures and attaining salvation. While all these fundamentals are relative and hold relevance at various stages of one's life, the *nitis* based on these fundamentals acted as references for design and development of the ancient Indian cities, which were epitome of Hindu culture. A lot has been recorded and written about these fundamentals through various *Nitis* and *Shastras* but hardly few are understood really in the modern day context. Secondly, the study of history of Indian city planning is restricted to few marvels and their design features. Very less is available and studied about ancient policies in terms of the town planning norms, social structure, economic status and general regulations for various aspects related with urban life. While there are numerous treatises such as *Manusmriti, Shukra Niti, Vaastu Shastra*, etc., which dictate the forms of shelters and towns, Kautilya's *Arthashastra* is considered to be a comprehensive treaty and addresses those entire essential fundamentals specific to the practices of design and development of human settlements.

The inferences derived at various points in this paper are not very exclusive and the article is an attempt towards developing some understanding regarding the policies for growth of urban locations during the historic times in India.

### **2. THE ARTHASHASTRA**

Of various scriptures from ancient times in India, the Kautilya's *Arthashastra* is one such treatise which elaborates the elemental features of a sovereign society. As quoted by many scholars it is a very comprehensive compilation of various other Hindu treatises relating to the social, economic and spiritual growth of human kind. There are around four distinct schools of thought and thirteen individual

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teachers referred to the complete compilation of the masterly work by Kautilya. However, these references on various occasions in the *Arthashastra* are either to derive a new approach or to defy their significance against the newly derived ones.

Written by Kautilya, also known as Chanakya and Vishnugupta, around 350 B.C., *Arthashastra* literally means 'Scripture of Wealth'. To Chanakya, the source of livelihood of man is wealth and that for a nation the wealth is in the form of both the territory of the state and its inhabitants with variety of occupations. No wonder the scripture also prescribes measures to protect this wealth from various calamities, natural as well as manmade. It places a great emphasis on the welfare of the people and delegates the ethics and morality of urban living. Through number of verses, the *Arthashastra* also dictate measures for environmental protection and animal welfare.

The treatise is a masterpiece which covers a wide range of topics like statecraft, politics, military warfare, law, accounting systems, taxation, fiscal policies, civil rules, internal and foreign trade, etc. Subjects including medicine, gemology, metallurgy, measures of length, tables of weights and divisions of time etc. are also highlighted along with many others. Often referred to as a guide to Political Sciences and Fundamentals of Management, the treatise also throws light on the evolution of urban studies in ancient India. Although less has been explored in this direction, it provides an insight into assessing and enhancing the capacities of the states in managing the adverse and disastrous situations due to natural or manmade reasons.

### 3. THE COUNTRY OF KAUTILYA

From the point of understanding the economic policies and a social structure advocated by Kautilya, it is important to know the size of the country he envisaged. During the period, which can be ascribed to *Arthashastra*, i.e. between 4th century B.C. and 150 A.D., there were empires and kingdoms that were ruled by an oligarchy of chiefs or a King. Obviously, therefore, the protection of one's territory and the wealth was the key factor in deciding the extent of territorial boundaries and their nature. At the same time for the rulers to have a complete administrative control over the territory was equally important. Therefore, the extent of the territories was governed mainly by the abilities of the rulers to defend it.

But as history tells us, Chanakya was a revolutionary thinker who did not conceive mere kingdoms but instead a complete nation. This makes it critical to exactly visualize the Kautilyan country. Also the hierarchical terms like *Janapada*, *Maha-Janapada*, *Gana-rajya* and *Rashtra* are often reflected in the Chanakya's vocabulary on territories. Since these terminologies are referred differently in different contexts, this makes it further difficult to precisely define the extent of the country.

Kautilya envisaged natural features like mountains, valleys, plains, deserts, forests, lakes and rivers as the frontier regions, which provided the opportunities to defend



Fig.1 The Maha-janapadas in India during 600 B.C.



(Source: Wikipedia)

the country at the times of war or any such circumstances<sup>1</sup>. Since a smaller region cannot have all these features together, it can be inferred that the geographical extent of the Kautilyan country was of larger size. Secondly, the policies on foreign relations of a state defined on the basis of theory of *mandala* indicate the existence of at least dozen states situated with close peripheries within the borders of India. Therefore, the state visualized in *Arthashastra* can be supposed to be as large

as a modern state in present day India. The scale of salaries laid down for various state servants also supports this proposition.

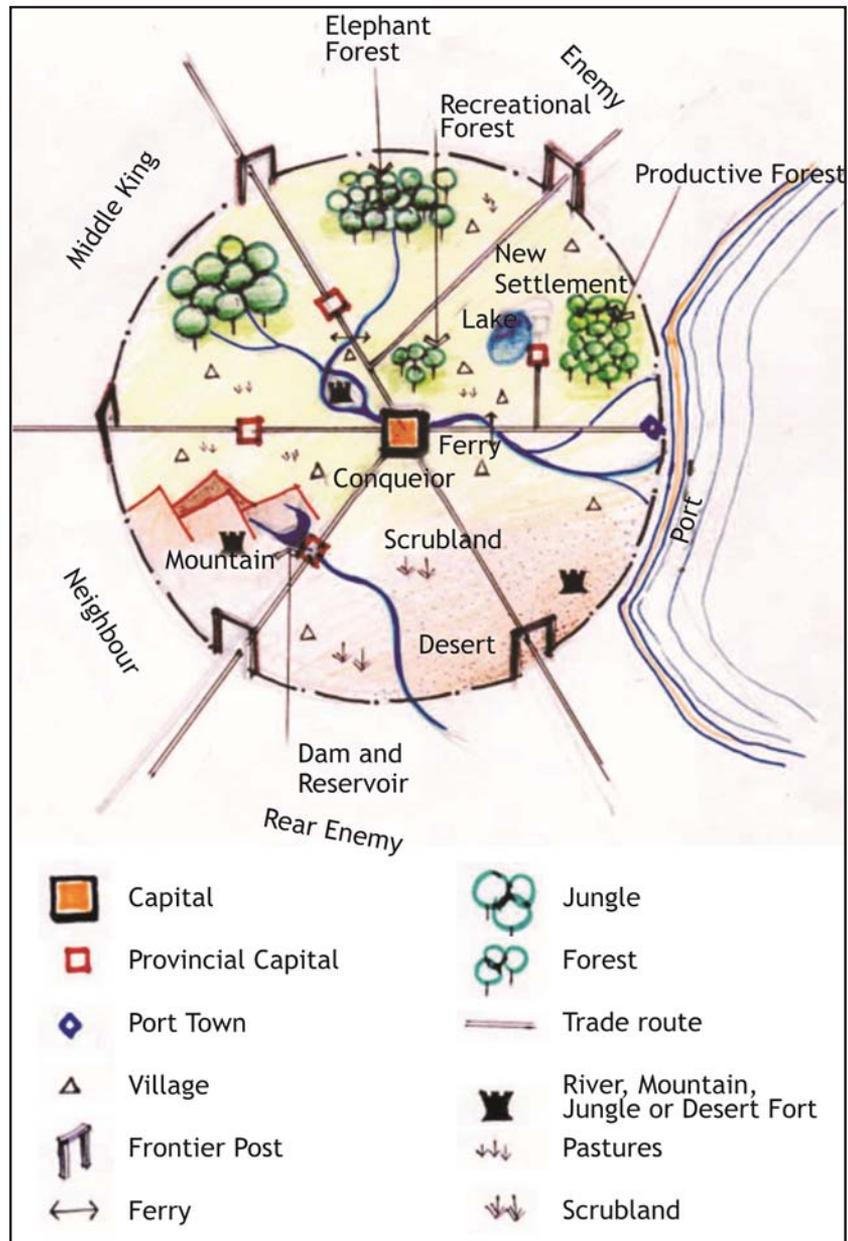
The country thus defined was divided into four provinces with a town as the headquarters of each province. The main city was fortified and located in the central part of the country (Fig. 2) with perennial source of water. The countryside was marked with villages located amidst pasture lands and lands for agriculture. Water from rivers and lakes was impounded for agriculture with the help of dams and embanked. Forests for recreation and for economic benefits were grown adjoining to the countryside. The frontier regions in the Kautilyan country were marked with elephant forests and untamed jungles. The jungles were inhabited by the tribes who possessed the knowledge of Regional Geography and its use in warfare. These tribes were given certain special rights and were not completely under the control of the king. Since Kautilya also prescribed some impingent regulations for environmental and animal welfare, the tribes could have also been given the rights over the natural resources in areas they inhabited. The frontiers were protected by the forts built especially on the trade routes to other countries.

<sup>1</sup> Such considerations were also evident during ages that followed and were used in the strategic planning of Fort Cities in India by various rulers.

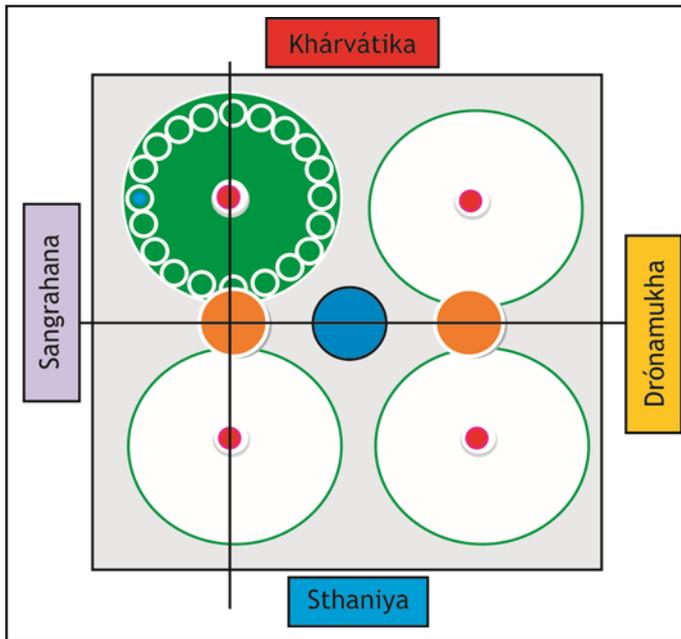
#### 4. ON URBANISATION AND URBAN MANAGEMENT

From the perspective of understanding the principles of design, development and management of settlements, Kautilya prescribed that it is important to know the kind of urbanization he conceptualized. He mentions a well defined hierarchy of the urban centers and the administrative divisions. These divisions were based mainly on the size of population and were influenced by the resources available in the region and opportunities for economic development. The smallest division was a village consisting of each not less than a hundred families and not more than five hundred families of agricultural people with boundaries extending as far as a *krósa* (2,250 yards). Apparently Kautilya also envisioned certain quality of life for the inhabitants by specifying population density and kind of physical developments in various parts of the town. Further, in his policies on urbanization, Kautilya encourages migration to the countryside in order to prevent overcrowding into the cities. This ensured a control over population as well as building densities and thus also reduced the hazard risks in city centers. The policy might also have been implied on widely spreading out the population across the nation, not just concentration in particular cities or national capitals thus supporting integrated and comprehensive growth of the regions. However, such outward regions were essentially with well developed agrarian economy.

Fig. 2 Hypothetical Sketch of the State as Conceived by Kautilya



**Fig.3 Administrative Divisions Based on the Size of Population**



Kautilya encouraged and invited people from other places to come and settle down in the countryside. He also advocated the formation of thickly populated places either on new sites or on old ruins thus building up a human capital and advancing economic generation through trade. He suggested taking measures to induce foreigners to immigrate to the kingdom for developing human resources and knowledge sharing.

However, the arrangement of various settlements within a region was essentially based on the resource profile of that region and their strategic positions for defense. The order of the settlements was also guided by the criticality of their position with respect to the defense policy of the ruler. From the perspective of managing the divisions, Kautilya adopted clustered approach with each cluster

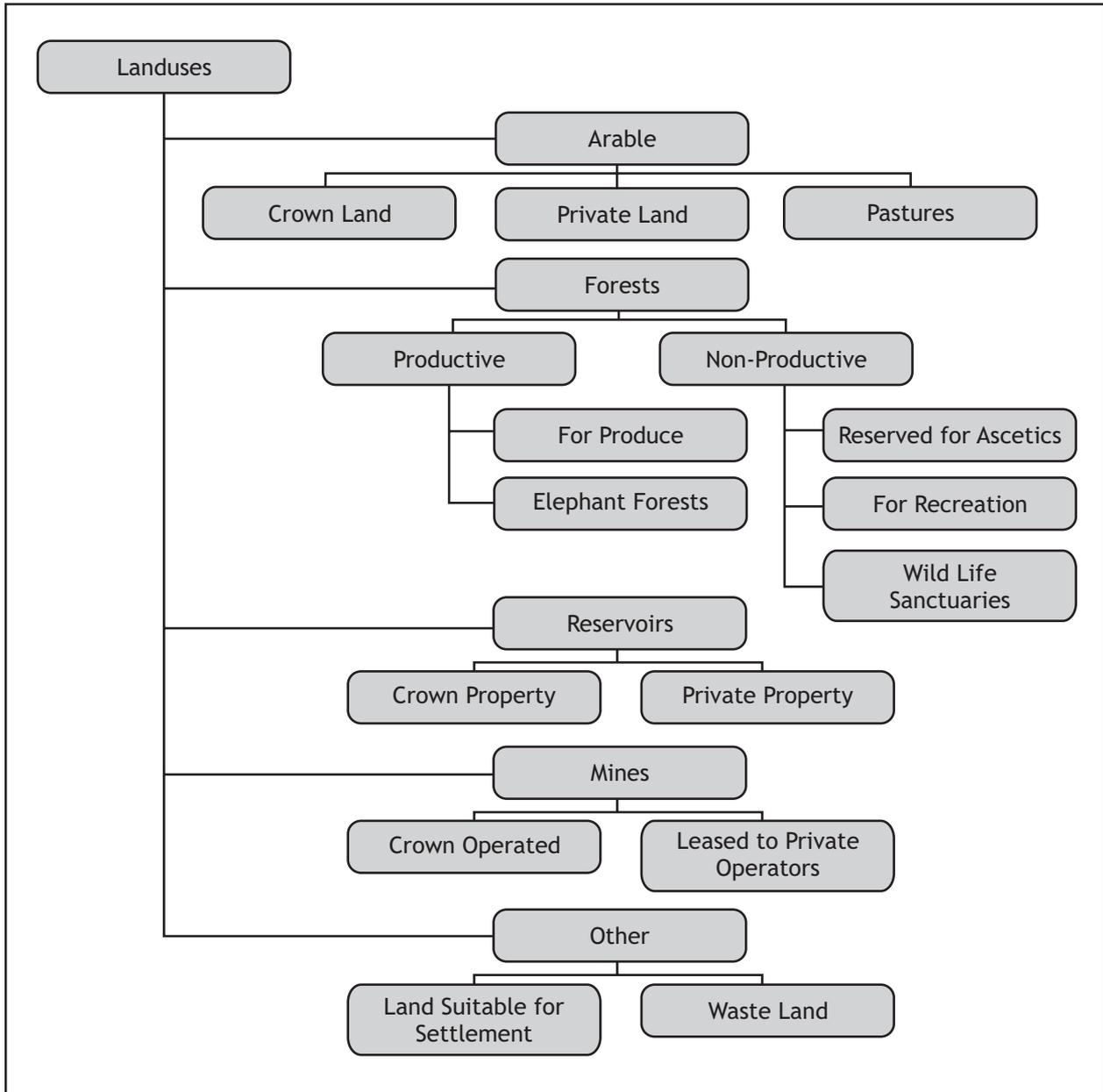
comprising of certain number of villages. A cluster of around eight hundred villages was to be centered by a *sthániya* (a fortress of that name), four hundred villages by a *drónamukha*, two hundred villages by a *khárvátika* and *sangrahana* in the midst of a collection of ten villages. These centers acted as town halls or probably like the hierarchical local governing authorities supporting the administrative functioning of the state. Kautilya further states the structure and duties of various cadres in the said centers and details out the likely punishments for not following the duties.

#### 4.1 On Land Use and Built Form

In building up the state, Kautilya regarded land with rich environmental resources such as forests, soils for agriculture, minerals, etc; as very valuable commodities. Depending upon the productivity of the soil, he demarcated suitable uses for such lands. For example the pasture grounds were to be provided only on the uncultivable tracts. There is also an elaborate description of the classification of land based on the rainfall it receives. Kautilya further suggests the crop patterns to be raised on each of such categorized lands. However, to realize the maximum value out of land, Kautilya notes the importance of human exertion more than the actual quality of land. 'The value of land is what man makes out of it.'

The chapter on land use further details out the type of plantations to be raised corresponding to a specific category of land use. Land suitable for *sóma* plantation and with forest having delicious fruit trees, bushes, bowers, and thorn less trees, safe from the dangers from animate or inanimate objects was to be denoted for

Fig 4: Classification of Landuses



Source: Kautilya The Arthashastra by L.N.Rangarajan

institutions for religious learning and for the performance of penance by the *Brahmanas*. The recreational spaces with huge water bodies having harmless animals and surrounded by plantations were to be developed separately for the royal family and for common public but on the periphery of the settlement.

However, any building (*sáláh*) intended for sports and play was not permitted in the village. Areas for performances by various entertainers like drummers, dancers,



buffoons and bards were also not encouraged and their performances in village were restricted as they might distract and disturb the people working in the village.

Boundaries of settlements were to be denoted either by a river, a mountain, forests, bulbous plants (grishti), caves, artificial buildings (sétubandha), or by trees such as sálmali (silk cotton tree), samí (Acacia Suma), and kshíravriksha (milky trees). The units for manufacturing goods based on forest products were set up in the proximity of forests usually on the outskirts of the settlement. But the forests with elephants were to be protected and were to be separated from wild tracts as well as the timber forests, specifically designated for exploiting timber resources and for procuring all kinds of forest-produce.

While anticipating the social as well as safety concerns arising from rise in population, Kautilya prescribed a set of regulations for settlement layout and building byelaws. Adhering to some extent to the ancient treatises and traditional knowledge systems, he promoted the principles of *Vastushastra* pertaining to the form and layout of settlements. Although Kautilya mocks the belief in planetary positions as means of leading a prosperous life and gaining wealth, he recommends the traditional settlement layout based on *Vastushastra* to exploit social beliefs and gullible people. Of all descriptions on building construction methods, the one on defense structures is well elaborated. Buildings of residential use were specified to be built of wood. Since the region Magadha was prone to earthquakes, wood must have been specified mainly to minimize the risk of casualties during earthquake.

The fort had three roads running East-West and three running North-South with twelve gates provided with both land and water-way kept secret for approach and exit. The width of various roads varied depending upon the land use they connected and the characteristics of the users.

## 5. ON CALAMITIES

According to Kautilya, a variety of calamities can afflict the population of a state as most people lived in the countryside outside the fortified town. Town or the fort was usually well planned compared to the outer settlements. The sufferings of the people could be due to acts of god or men. Acts of god are mentioned in the text in a number of chapters (4.3, 8.4, 9.7) out of which 4.3 (fire) has most extensive treatment.

Calamities by men are numerous and include depredations of armies, internal strife, and decadence, harassment by queen, mistresses, princes, important ministers, rebellious guilds or chiefs, dangers from forests especially from one with elephants.

Calamities due to acts of god are fire, floods, diseases and epidemics and feminine. Other calamities could include 'divine origins' like rats, wild animals, snakes and evil spirits. In the following sections the corresponding deities (most of which are natural forms) are mentioned for worshipping in the advent of these calamities. This



refers to the philosophy rooted in Hindu religion on environmental conservation and the 'five elements' or Pancha Mahabhootas.

Deliberating on the relative seriousness of the calamities, scholars opine that fire is more dangerous as destruction by fire is irremediable and that one can escape floods by wooden planks or swimming and damages can be reduced. But Chanakya considers floods more serious than fire as floods may destroy hundreds of villages whereas fire destroys only one village or a part of it. He further mentions that during the rainy seasons the villagers living near the river banks shall move to higher grounds and shall keep a collection of wooden planks, bamboo and boats. Making a note on the civic responsibility he points out that persons carried away by floods shall be rescued using gourds, skin bags, tree trunks, canoes, boats and thick ropes. Owners of canoes shall be punished if they do not try to save someone in danger.

Responsibilities of the municipal administration and the citizens for preventing the fire outbreaks in more crowded cities are given in detail and the verses even mention subsequent punishments in cases of failing to follow the respective responsibilities. A sense of prevention and early warning system is enforced through these responsibilities applicable to all. It also stresses the importance of structurally sound houses and states that no one shall cause injury to others by the collapse of a rickety dwelling or an unsupported pillar or beam. With a view to warding off the evil consequences of rain, the top of the roof shall be covered with a broad mat, not to be blown by the wind. Neither shall the roof be such as it easily bends or breaks. Violation of this rule shall be punished.

Kautilya suggests that no land prone to famine conditions be taken over for any development. However, the king may encourage any person trying to improve the conditions through various means such as developing forests or by not imposing any tax over such measures. During famine, the king shall show favor to his people by providing them with seeds and provision (bījabhaktopagrāham). He may either do such works as are usually resorted to in calamities. He may show favors by distributing either his own collection of provisions or the hoarded income of the rich among the people or by seeking help from his friends among kings. Or the king with his subjects may emigrate to another kingdom with abundant harvest or seashores or to the banks of rivers or lakes. He may cause his subjects to grow grains, vegetables, roots, and fruits wherever water is available. He may, by hunting and fishing on a large scale, provide the people with wild beasts, birds, elephants, tigers or fish.

While describing the sector plans for the town he mentions that those who work by fire (blacksmiths) shall all together live in a single locality. Further Chanakya proposes that vessels filled with water shall be kept in thousands in a row without confusion not only in big streets and at places where four roads meet but also in front of the royal buildings for ensuring the quick response to the situation of any fire in the



town. However, a strict regulation was imposed for prohibiting the movement of people during the interval between six nálikas (2 2/5 hours) after the fall of night and six nálikas before the dawn. But movement to extinguish the outbreak of fire shall not be interrupted or arrested.

Talking of the responsibilities of the townsmen in the prevention of fire, Chanakya says that in the summer citizens shall take appropriate precautions against fire. They shall not light fires during the two middle quarters of the day. If the food has to be cooked during this period, it shall be done outside the house. Chanakya's emergency equipments included five water pots, a big jar, a through ladder, an axe for chopping down pillars and beams, a winnowing basket for fanning away the fire, a hook to pull away burning parts, hooked rake for pulling away thatch and a skin bag. He advocates this as a regulation for every householder failing which there are fines and punishments in the form of *panas* or currency. At the same time he gives importance to the peoples' capacity as 'first respondents' when he mentions that if a house catches fire, every occupant, owner or tenant, shall take immediate steps to put it out. To avoid the casualties and for ease of evacuation, Chanakya advises householders to stay near the front doors of their houses during night and do not collect together. To minimize the risk by fire he suggests that the citizens should have a common fireplace. While describing the building regulations he even mentions that the places for fire shall be at least 1 aratni or 1 pada (about a foot and half) from the nearing wall should have a water jar. Moreover, fines for not hastening to protect a house from fire as well as letting house catch fire through negligence are imposed. Chanakya takes a hard stand in the case of Arson (deliberately setting fire) and mentions a subsequent punishment of death by fire.

## 6. CONCLUSIONS

How much do we alter the policies for growth of the human settlements, the basic principles are bound to remain constant so long as they address a wholesome development of the human kind. What do we learn from the past surely depends on how we look at it. Kautilya Arthashastra, also commonly known as the *Kuta-niti*, has been referred mainly for its significance in the political history of India. Hence there is a common misconception that it deals only with the tricks and tactics pertaining to the state politics. Secondly, with the changing face of politics in the modern times it is seen as a great document only for all those in the field of public vote capturing. The few principles discussed above may seem very general but the way they are proposed to be implemented follows the principles for making a cohesive society.

## REFERENCES

- Rangarajan, L.N. (1992) *Kautilya, the Arthashastra*, Penguin Classics, New Delhi.
- Kangle, R.P. (1965) *The Kautilya Arthashastra*, Part III, M.B. Publishers, Delhi.
- Nehru, J.L. (2004) *The Discovery of India*, Penguin Classics, New Delhi.