

## Amaravati- Restoring Glory in a Smart Way

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### **ABSTRACT**

*Amaravati is the new capital of Andhra Pradesh state and is the fifth planned capital city in India. The need for a new capital came after the combined state got split into two Andhra Pradesh (smaller with 13 districts) and Telangana (10 districts) due to the three decade struggle by the people of Telangana in 2014. Though the existing capital Hyderabad will serve as capital for both states, chief minister Chandrababu Naidu took a decision to build a capital of their own. Thus the idea was conceived. This article focuses on the smart features Amaravati had adopted to create its mark as a city reborn to restore its old grandeur. The conclusion is even it's a city from scratch by using the expertise of top countries like Singapore, Japan it started its journey to be a world class smart city.*

**Keywords:** Bifurcation, Amaravati, Site Selection Criteria, Smart city.

### **Introduction:**

The Andhra Pradesh reorganisation act of 2014 divided the state into Telangana and residuary Andhra Pradesh and declared that Hyderabad would serve as common capital for a stipulated period of not more than ten years<sup>76</sup>. The act clearly spelled out the method of apportionment of assets and liabilities; former would depend on the geographic location and later on population ratio (58.32 per cent Andhra Pradesh and 41.68 per cent Telangana). As all the major assets are located in and around Hyderabad city, Andhra Pradesh has to forfeit huge economic assets by inheriting heavy liability without having any ability to service the huge debt.<sup>77</sup> On the other way Telangana attained 52% contribution from Hyderabad to its gross state domestic product with a wide range of economic activities in and around the historic city. The location of the capital within the geographical boundary of Telangana state is advantageous for its development creating hardships for Andhra people and government personnel to access services. The first and foremost challenge the state faced in 2014 after bifurcation was lack of capital city and huge deficit in the state's economy. It became an obligation for the state government to create a capital of their own to carry out the administration and provide services to people at their doorsteps which will also help in accelerating growth and achieve sustainable development.

To study the feasible locations of the new capital the government of Andhra Pradesh appointed an expert committee at the time of bifurcation. It had collected opinions from institutions, people through petitions and more than 50 % voted for the region in and around Vijayawada Guntur region. Seeking all the decisions the government decided to locate the capital at Amaravati and planned for decentralised development and accumulate land through land pooling system under the direction of cabinet subcommittee<sup>78</sup>.

### **About Amaravati:**

The literal meaning of Amaravati is "Amar" means immortal and "Avati" means place to stay. It implies divine place and hence a divine capital. According to mythology lord indra's capital is also called as Amaravati. A popular story goes like this there is a popular pancharama temple located at Amaravati where a demon king tarakasura was killed by lord kartikeya and the atma linga worn by him broke into five pieces which got planted into the earth and later took full form of shiva linga's again. Wherever the pieces got planted it became an arama or kshetra. Thus came the five arama's called amararamam, bhimaramam, draksharamam, somaramam, kumararamam. The main chunk was dropped by indra at this city which came to be known as Amararamam or Amaravati. There after it turned to a famous pilgrimage for hindhus or sanatan dharmis who adore eternal natural principles. As mentioned above like Ganga river in kasi the river Krishna also flows as Uttara vahini which is very auspicious. The roots of Buddhism can be traced from this place. In fact recognising the importance the city has Buddhists all over the world had a congregation to celebrate Kalachakra here in the year 2006 by Dalai lama. During 230 BCE to 220 AD the deccan plateau region was ruled by satavahana dynasty who maintained their capitals at different places from present day Andhra Pradesh to maharastra. To name a few dharanikota near Amaravati, koti Lingala in Karimnagar

<sup>76</sup>Section 5 of AP Reorganisation Act, 2014, Government of India.

<sup>77</sup>White Paper of Government of Andhra Pradesh on Impact of State reorganisation: Paragraph 15.

<sup>78</sup>Andhra Pradesh cabinet resolution dated September 9, 2014.

district in the present day Telangana, prathistanapura or python and junnar in maharastra. The most famous king of the satavaahana dynasty goutami putra satakarni or salivahana defeated raja vikramaditya in a fierce battle in 78 AD who was the king of Ujjain. To commemorate his victory he commenced a calender named saka samvat. These southern states (AP, Telangana, Karnataka and Maharastra) follow saka samvat unlike people of north india who follow vikram samvat. The look alike single rock carved anatha padmanabaswamy statue in kerala is also seen in undavalli caves in Guntur district. The indrakiladri hillock which has the great history of lord shiva blessing Arjuna of pandavas with pasupatastra is located nearby capital city. Basing on this the name Vijayawada from vijayavatika is derieved. It houses the famous temple of kanakdurga and malikarjuna swamy. From times immemorial the new city has glorious history in cultural and traditional terms. The eternal dharma chakra is the symbol of Amaravati which signifies that life goes on in cyclical fashion like the seasonal variation. So the time has come back to signify the glory of the city once again. The jagannadha radha chakra has started again, be it what and whoever come and go, it will be continuing in this modern era too.Amaravati art style is one among the three art styles of ancient India the other two being Gandhara and Mathura.

#### **Site Selection Criteria:**

All the above factors are taken care in site selection and plan implementation. The selection of the city is done on the basis of:

Midst of two ends of the state

Glorious History

Flood Free zone

Proximity to the River Krishna

Blank canvas and Vaastu

Gateway of east for trade through water

Political Equations

The plan for the city development was given by Singapore in three phases. It has imbibed in it all the smart features analysing from each country.The capital city of Amaravati has received 'platinum' in the Indian Green Building Council's (IGBC) Green Cities Rating. The 'platinum' is the highest rating a city can obtain as per a new category.<sup>79</sup> Amaravati is necessarily called a smart city due to the inception of **the following varied features** in its development plan which got its name as smart integrated infrastructure plan. They are:

#### **Traffic and Transportation:**

The planning of the city is done in such a way to provide sustainable public transport and non-motorised transportation systems for safe, seamless and expedient access. To go in lieu with the objectives of the national urban transport policy, preference was given to the smart and green modes of transport.The effective policies and proposals to be implemented to achieve the set goal are to promote the shared public transport by the year 2050 keeping the targets at 70% across the city and within the CBD its 80%. At the initial period BRT is planned which eventually will be developed to MRT. A high speed rail corridor to mark with the pace of growth of the city is proposed. The city's transport is designed on smart lines in such a way that it takes five minutes to reach essentials, ten minutes to any commodities fifteen minutes for any public transport.<sup>80</sup>

#### **Waste Water Management:**

This feature is counted as one essential condition for maintaining the high standard of living in the city. If it is neglected it leads to major health hazards posing risk to citizens. The vision adopted to reach the smart standards are to have a robust waste water system including collection, conveyance, treatment, partly recycle or reuse the treated waste water and strike a balance for healthy disposal to water bodies. There will be strict distinction between the pipes carrying sewerage and the pipes for drainage of rain water. Separate conduits are also dedicated in the system.

#### **Storm Water Management:**

The city has many possible chances of flooding due its flat terrain, inadequate size of cross sectional drainage, streams that bend very sharp. As Amaravati is planned and is visioned to be developed on the

<sup>79</sup> APCRDA Report 2018

<sup>80</sup> On the basis of personal interaction with the APCRDA official Mr. Ajay, March, 2018.

once floodplain of river Krishna in a high rainfall zone it had opted some principles which will make it a zero flooding zone. They are

- Rainwater harvesting through which 40% run off volume is taken care of and helps in percolation.<sup>81</sup>
  - Grass swale is a technique used to decrease storm water runoff by attenuating or treating it.
  - Green roof another practise that reduces runoff volume by 45-55 %. It also reduces the urban heat, creates recreation with aesthetic beauty<sup>82</sup>.
  - Porous pavement method is adopted which allows storm water to drain through them and is absorbed by the native soil beneath or is detained temporarily. It is estimated to control runoff by 45 %.
  - Detention ponds at planned places to decrease the peak time rise and is expected to reduce runoff by 50%.
  - Rain gardens to infiltrate the rain water or flood water temporarily.
- In this way loss due to property destruction and health costs to be spent on treating water borne diseases can be avoided.

#### **Power:**

To meet the standards of smart city a smart grid was designed and will be developed to ensure uninterrupted power supply for the citizens during the times of distress. Smart grids, smart metering, underground cabling, LED street lighting and SCADA called supervisory control and data acquisition will be employed for automation of power distribution with modern communication technologies.

#### **Information and Communication Technology:**

ICT will have a major role to play in the development of the smart capital city. All the components and parameters involved in the planning of the city are linked to one another with technology. It is aimed to build the city data centre and infrastructure network step by step by the completion of the entire project.<sup>83</sup> It would then serve as a platform of growth for tackling several smart applications. Andhra Pradesh optical fibre grid is worth mentioning here which is implemented with the vision of establishing high scalable network providing broadband connectivity of up to 20 mbps to households and 10 mbps to enterprises by 2018. The ICT plan will realise the dream of digital AP with the combined efforts of GoI and private sector.

#### **Safety and Security:**

The city is planned to have an orderly laws, rules and regulations focusing not just on routine security threats but also on man-made disasters ensuring security. Most monitoring techniques will be handled by CCTV cameras at every place like public places, government departments, industries, health etc. This is done at the peripheral layer further upgrading it to central policing system for providing safety to children, women, differently abled and elderly at any time of the hour.

#### **Conclusion:**

Amaravati thus with several parameters is likely the first green field smart city of India. It took steps this year to emerge as a reality in a few years to create a prosperous and sustainable city where all sections of society can live in harmony and serve as model for many Greenfield city development projects in the years to come.

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<sup>81</sup> CRDA Infra Plan, 2018.

<sup>82</sup> Personal Interaction with CRDA official Nageswarao, 2018.

<sup>83</sup> Insights from Deep Dive Workshop conducted in Amaravati by government in 2017