V Skills
Skills for a secure future

Certified Smart Cities Professional Sample Material

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A Government of India
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V-Skills

Skills for a secure future

1. WHAT ARE SMART CITIES?

1.1. Definitions of Smart Cities

In his Budget Speech of July, 2014, the Finance Minister, Shri Arun Jaitley said
"As the fruits of development reach an increasingly large number of people, the pace of migration from the rural areas to the cities is increasing. A neo middle class is emerging which has the aspiration of better living standards. Unless, new cities are developed to accommodate the burgeoning number of people, the existing cities would soon become unlivable. The Prime Minister has a vision of developing 'one hundred Smart Cities', as satellite towns of larger cities and by modernizing the existing mid-sized cities."

As India's population continues to grow, more citizens will move to cities. Experts predict that about 25-30 people will migrate every minute to major Indian cities from rural areas in search of better livelihood and better lifestyles. It is estimated that by the year 2050, the number of people living in Indian cities will touch 843 million. To accommodate this massive urbanization, India needs to fi¬nd smarter ways to manage complexities, reduce expenses, increase efficiency and improve the quality of life. The Government of India has allocated ` 70.6 billion (USD 1.2 billion) for Smart Cities in Budget 2014-15

People migrate to cities in search of better employment, living conditions, and higher standards of living .A higher standard of living entails good quality housing, cost efficient physical and social infrastructure such as water, sanitation, electricity, clean air, education, health care, security, entertainment, etc.

A lot of Industries and companies are also located in urban areas due to the easy availability of labor, infrastructure, electricity and other essential facilities. In this context, Smart Cities can be defined as those that are able to attract investments. Good infrastructure, simple and transparent online processes that make it easy to establish an enterprise and run it efficiently are important features of an investor friendly city.

Different organizations have used different definitions for Smart Cities, some of these definitions are explained as under:-

The UK Department of Business, Innovation and Skills considers smart cities as a process rather than as a static outcome, in which increased citizen engagement, hard infrastructure, social capital and digital technologies make cities more livable, resilient and better able to respond to challenges.

The British Standards Institute defines it as "the effective integration of physical, digital and human systems in the built environment to deliver sustainable, prosperous and inclusive future of its citizens".

A Smart City connects human capital, social capital and ICT infrastructure in order to address public issues, achieve a sustainable development and increase the quality of life of its citizens
Smart Cities are those which have smart (intelligent) physical, social, institutional and economic infrastructure. It is expected that such a Smart City will be able to provide the common man and the industries essential facilities cost effectively and efficiently
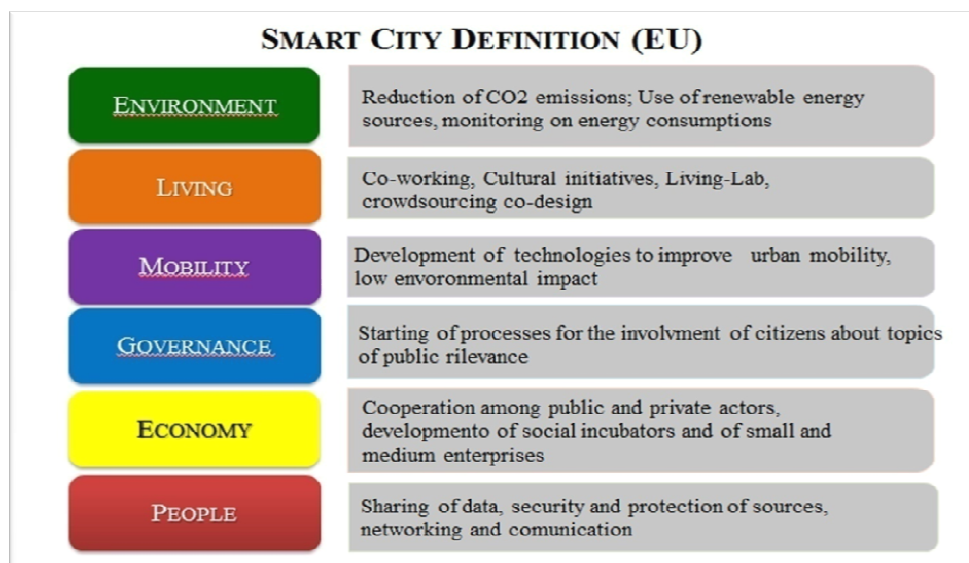
Therefore, smart cities can be defined as those which have the following 3 features:

✓ Competitiveness which refers to a city's ability to create employment opportunities, attract investments and people. The ease of being able to do business and the quality of life a smart city offers its inhabitants determines its competitiveness.

✓ Sustainability which includes social sustainability, environmental sustainability and financial sustainability.

✓ Quality of Life is a broad term, which includes safety and security, inclusiveness, entertainment, ease of seeking and obtaining public services, cost efficient healthcare, quality education, and opportunities for participation in governance

1.2. Characteristics Of A Smart City
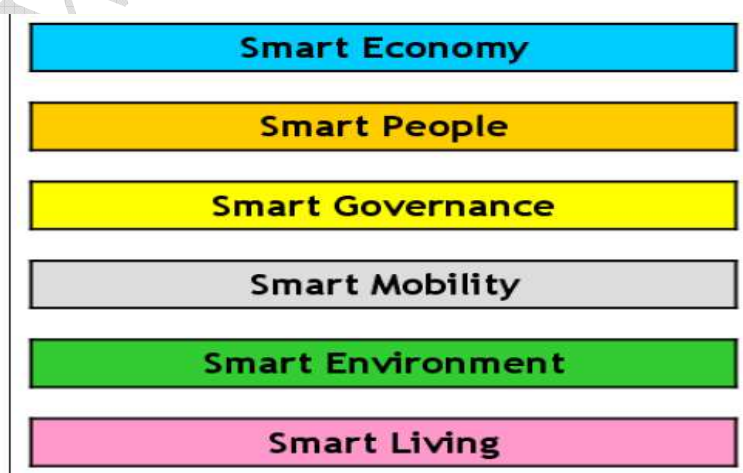
The above table illustrates the 6 characteristics and their assigned factors are as follows:

✓ Smart Economy includes factors which indicate economic competitiveness such as innovation, entrepreneurship, trademarks, productivity and flexibility of the labor market as well as the integration in the (inter-)national market.

✓ Smart People do not only describe the level of qualification or education of the citizens but also describes the quality of social interactions, public life and their level of openness towards the "outer" world.

✓ Smart Governance comprises aspects of political participation, services for citizens as well as the functioning of the administration.

✓ Local and international accessibility are important aspects of Smart Mobility as well as the availability of information and communication technologies and modern and sustainable transport systems.

✓ Smart Environment is described by attractive natural conditions (climate, green space etc.), pollution, and resource management and also by efforts towards environmental protection.

✓ Finally, Smart Living comprises various aspects of quality of life such as culture, health, safety, housing, tourism etc

1.3. Pillars Of Smart Cities
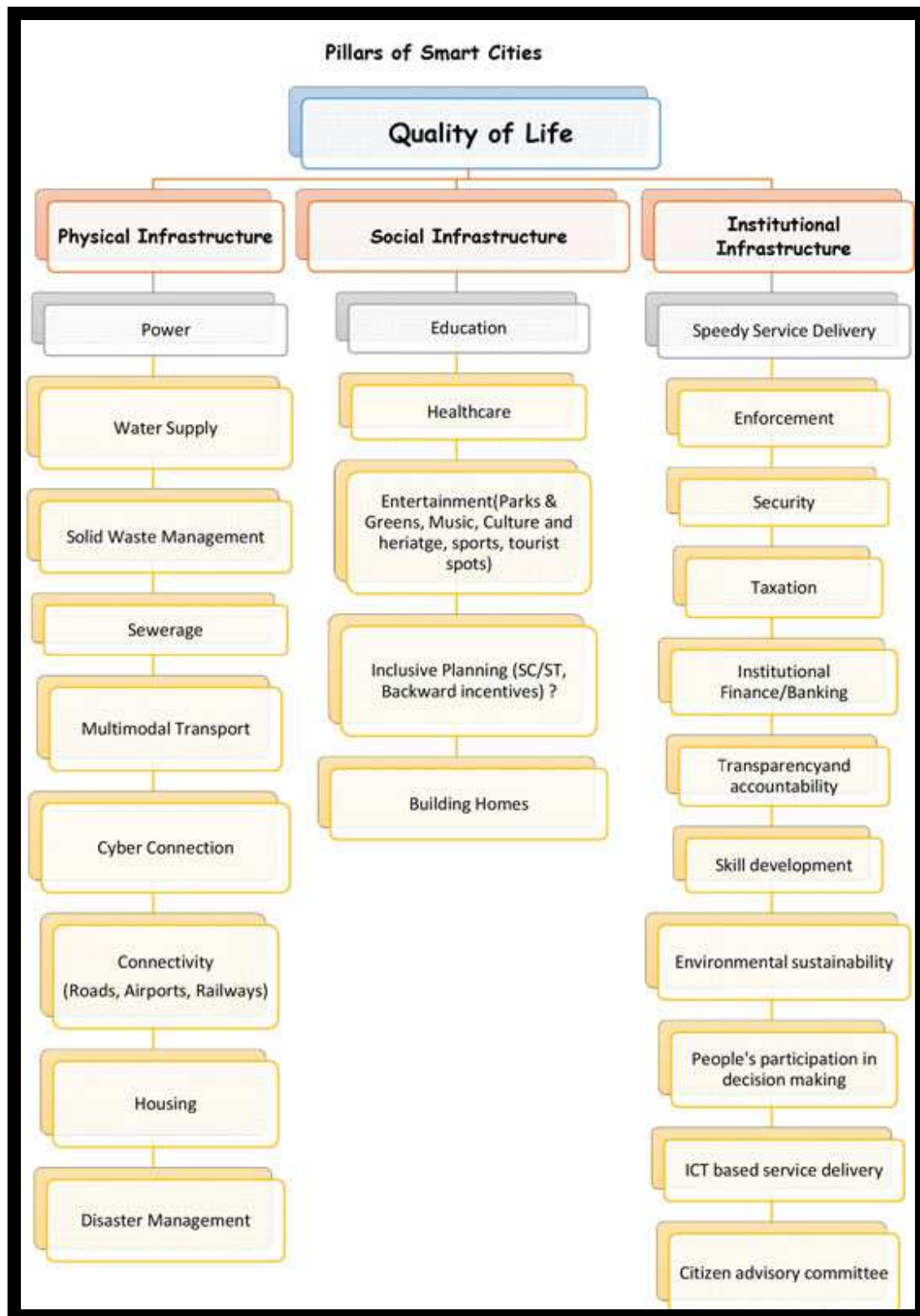
The pillars of smart cities i.e. mainly physical, social and institutional infrastructure won't be strong without the cooperation and coordination of the following 3 essential participants:

✓ Government and city authorities.

✓ Public-private partnerships.

✓ Citizen participation

1.4. Instruments of Smart Cities

The availability and effective use of the following instruments is essential for the sustained development of a smart city:

Use of Clean Technologies: As per the WHO report, Indian cities are amongst the most polluted in the world, creating severe health hazards. This trend needs to be reversed by promoting the use of clean technologies that control renewable materials and energy sources. In smart cities buildings, transport and infrastructure should be energy efficient and environmentally benevolent.

Use of Information and Communication Technology (ICT) The extensive use of ICT is a must and only this can ensure effective and quick information exchange. Most services will need to be ICT enabled, and this often helps to reduce the need for travel. The ability to shop on-line or book tickets online or converse online are very powerful ways of reducing the need for travel, thereby reducing congestion, pollutants and energy use.

 Participation of the Private Sector Public Private Partnership (PPP) allows Government to tap on to the private sectors capacity to innovate. Greater involvement of the private sector in the delivery of services is another instrument as it enables higher levels of efficiency (this should be the prime motive for using the private sector rather than just tapping financial resources).

Citizen participation Citizen Consultation and a transparent system by which citizens can rate different services is yet another instrument for improving performance. Making these ratings openly available for public scrutiny creates a powerful incentive for improved performance and a disincentive for poor performance.

Smart Governance: The existing Government setup in the Urban Local Bodies (ULBs) is rather fragmented, which results in lack of coordination. This is reflected in the form of poor services to the citizens. Therefore, for cities to become smart, it is essential that the governance structure is also smart. Therefore, ULBs need to make effective use of ICTs in public administration to connect and coordinate between various departments. This combined with organizational change and new skills would improve effective and efficient implementation of public services.

This idea is not without challenges, especially in India. For instance, the success of such a city depends on all the stakeholders becoming dynamically involved in energy saving and execution of new technologies. There are many ways to make personal and public spaces sustainable in the long run, but a majority of the total energy use is still determined by the end users and their behavior. Time is also a significant factor for such cities as it can take anything between 20 and 30 years to build.