ABSTRACT

Soon after independence the then Prime Minister Shri Jawaharlal Nehru laid emphasis on promotion of science and technology. This along with the adoption of a mixed economy model led to accelerated growth of urbanization. Several factors could be said to be responsible for this such as industrialization, social realization of the living standard of city life and need for improvement in social status. Urbanization has certain positive effects such as provision of greater employment opportunities; improvement in infrastructural facilities; availability of better educational facilities; and improvement in the overall standard of living. But it is not without its negatives which include overpopulation; breakdown of joint family system; increasing crime rate; mechanical mode of living; and paucity of space. An important step in this direction has been the concept of ‘smart city’ envisioned by our Hon Prime Minister Shri Narendra Modi. A ‘smart city’ can be defined as an urban region which is highly advanced in terms of overall infrastructure, sustainable real estate communication and market viability. In this city Information and Communication technology is the principal infrastructure and basis for providing essential services to citizens. The need for development of ‘smart city’ are from factors such as ensuring good infrastructure; providing smart solutions; promoting development activities and provision of housing for all. The concept however, faces a number of challenges. But the point to be remembered is that the concept has a lot of potential and much depends on how they are managed and promoted.

Keywords: Urbanization; Smart City; Digital Technology; ICT

INTRODUCTION

Soon after gaining independence the country was confronted with a number of problems such as poverty, unemployment and economic backwardness. The first Prime Minister of independent India, late Shri Jawaharlal Nehru laid emphasis on science and technology, as a tool for promoting economic development. This was accompanied by the adoption of mixed economy, which was characterized by the co-existence of the public and private sectors. Consequently urbanization started growing at an accelerated pace. The current Prime Minister Shri Narendra Modi has envisioned the development of 100 smart cities as satellite towns of large cities and modernization of the existing mid-cities.

In this Paper an attempt has been made to look into the concept of urbanization, to examine the causes and effects of urbanization, the gist of the idea of smart cities, the need for such concept and the challenges faced by them.
OBJECTIVES OF THE STUDY

Urbanization plays an important role in the process of economic development of a country. Keeping this in mind and also taking into account the Indian perspective, this Paper is based on the following objectives:

1. To examine the concept of urbanization with special reference to India and look into its advantages and disadvantages;
2. To discuss the novel concept of ‘Smart City’ envisioned by our current Prime Minister Hon Narendra Modi;
3. To examine the need for the introduction of the concept;
4. Any new project while undoubtedly is a heartening feature, it has both its positives and negatives. This Paper aims at discussing both with the future trend in mind.

Concept of Urbanization

Urbanization can be defined as a process of moving to cities and changing from agriculture to other pursuits common to industries. In other words, it refers to shift of population from rural to urban areas, creating enormous social, economic, urban planning and health. Urbanization should not be considered as a modern phenomenon, but rather as a rapid and historic transformation of human roots on a global scale with the replacement of rural culture by urban culture.

In India the term ‘Urban’ is defined as a human settlement with a minimum population of 5000 persons, characterized by 75% of main male population engaged in non-agricultural pursuits and having a minimum density of 400 persons per square kilometer.

Factors Responsible For Urbanization in India

The following can be considered as causes of urbanization in India:

One, urbanization implies industrialization accompanied by expansion of employment opportunities. Rural people are lured into migrating to urban areas on account of better employment opportunities; 

Two, the existence of social factors such as attraction towards cities; desire for better standard of living, better educational facilities; craving for higher status etc, encourages rural people to migrate to urban areas.

Three, in rural areas agriculture is the main source of livelihood. Indian agriculture, however, is dependent on the monsoons, and vagaries of the latter can lead to floods droughts and other natural calamities. During such periods people migrate to towns and cities.

Four, with modernization urban areas are characterized by better sophisticated technology, better infrastructure and communication as also medical facilities. On account of these factors people from villages migrate to urban areas.

Effects of Urbanization

Urbanization has both positive and negative effects. Let us first look at the positive aspects, before we dwell on the negative ones.

Firstly, it provides greater employment opportunities; secondly, urbanization is always accompanied by improvement in infrastructural facilities; thirdly better educational facilities are available in the urban areas; fourthly urbanization leads to improvement in the overall standard of living.

The negative effects include: overpopulation and consequent pressure in the urban areas; growth of nuclear family and breakdown of joint family system; paucity of space and high cost of living; the crime rate goes up; fast and mechanical mode of living results in impersonal relations; the end result is generation of stress.
Concept of Smart Cities

The migration of people from rural to urban areas is now a universal phenomenon and India is no exception to the rule. The need of the hour is for more cities to cater to this growing influx. Under these circumstances a sense of realization arose for the development of cities, which apart from coping with urban standard of living would also serve the dual purpose of being magnets of development.

A ‘smart city’ can be defined as an urban region which is highly advanced in terms of overall infrastructure, sustainable real estate communication and market viability. In this city Information and Communication technology is the principal infrastructure and basis for providing essential services to citizens.

A smart city uses digital technologies or ICT (Information and Communication Technology) to enhance quality and performance of urban services; to reduce costs and resource consumption and to engage with its citizens in a more effective and active manner.

The concept of smart city is known by different names such as ‘cyber Ville’, ‘digital city’, ‘electronic communities’, ‘flexicity’, ‘information city’, ‘intelligent city’, knowledge-based city’, MESH city’, ‘telicity’, ‘teletopia’, ‘ubiquitous city’, ‘wired city’ etc. A Smart city can simply be defined as one equipped with basic infrastructure to facilitate a decent standard of living and clean and sustainable environment through application of some smart solutions.

The concept of ‘smart city’ emerged in the US when the entire nation was going through a global crisis. IBM started working on this concept as part of its Smarter Planet initiative. Very soon countries like South Korea, China, and UAE began to invest heavily in research.

Four factors can be said to be contributing to the definition of a smart city:

- Application of a wide range of electronic and communication technologies to cities;
- Use of ICT to transform both life and working environment within a region;
- Application of such technology to government systems;
- The territorialization of practices that bring both people and innovations together to utilize the knowledge and innovation offered by them.

According to the 2011 Census 31% of India’s population lives in towns and cities contributing 63% of India’s GDP. It is expected that by 2030 40% of the population will reside in urban areas accounting for 75% of GDP. The upliftment of standard of living and attracting both population and investment to the urban areas would make way for virtuous cycle of growth and development. From this angle the concept of smart city can be considered as a step in the right direction.

From the Indian perspective the core elements of smart city are:

- Adequate supply of water;
- Adequate electricity supply;
- Sanitation including solid waste management;
- Affordable housing to the poor;
- Efficient urban mobility and Public transportation;
- Robust IT connectivity and digitalization;
- Good governance particularly e governance;
- Safety and security of citizens particularly women, children and elderly;
- Health and education.
Features of Smart Cities

Smart cities generally possess the following features:

- Promoting mixed land use in area-based developments;
- Expanding housing opportunities for the benefit of all;
- Creating walkable localities. Road network is created here not only for vehicles but also for pedestrians and cyclists and accordingly they offer necessary administrative services;
- Preservation and development of open spaces in order to enhance the quality of life of citizens reduce urban-heat effect in areas and generation of ecological balance;
- Provision of a variety of transport options;
- Making governance citizen friendly and cost effective by providing more online accountability and transparency. Online methods could be used for monitoring of programs and activities with the help of cyber tour of workshops;
- Identification of cities based on economic activity such as local cuisine, health, education etc

The Mission aims at covering 100 cities and has a duration of 5 years – that is from financial year 2015-16 to financial year 2019-20.

Need For Introduction of the Concept of Smart Cities

After having examined the concept of ‘smart city’ let us look into the need for development of this concept:

Firstly, it ensures good infrastructure in the form of water supply and sanitation services as also uninterrupted electric power supply;

Secondly, it provides smart solutions such as providing public data, supply of electronic services, 100% treatment of waste management, monitoring of water quality etc;

Thirdly, they promote economic development. Smart cities enhance the development activities of a region. Several productive activities such as building of schools, organizations, malls etc can take place;

Fourthly the concept leads to a situation of housing for all. A smart city provides various opportunities and advantages to the locals. India is expanding at a rapid pace and the emergence of ‘smart city’ can provide employment for many.

Challenges Confronting Smart Cities

While, there is no doubt that the concept of smart city is a novel one, it is confronted with a number of potential challenges. Let us discuss them:

One, It is of utmost importance that one identifies the weaknesses of the city. The first challenge would be integration of former legacy isolated system with achievement of citywide efficiencies;

Two, the second hurdle is one of financing of smart cities. As per the estimates of the High Power Expert Committee on Investment estimates in urban infrastructure the per capita investment cost amounts to Rupees 43, 386 crores for a twenty year period. If we assume an average of 1 million people in each smart city the investment requirements for the smart city comes to Rupees 7 crores in 20 years. The financing of these projects is a major challenge calling for Public Private Partnership or complete privatization.

Three, the need of the hour is for master plan or city development plan. However, majority of our cities do not possess any.
Four, Urban local bodies lack financial sustainability. Under this situation inadequate cost recovery will lead to financial losses.

Five, most urban local bodies possess limited technical capacity to guarantee timely and cost effective implementation of project. In addition they lack skilled manpower owing to limited recruitment and inability to lure the best talent at market competitive compensation rates.

Six, a major problem is coordination of sound governance. This implies a three tier structure comprising local, state and national governance.

Seven, a major challenge is provision of clearance in a timely manner. To ensure timely completion of projects it is essential that all clearance should be online process and be cleared in a timely manner.

Eight, it is necessary to ensure utility services such as regular electricity supply, water supply, telephonic services etc. Today there are doubts about the reliability of utility services in India.

CONCLUSION

From the above discussion there seems to be tremendous potential in India to build an economic system that will facilitate the transformation of our urban areas into being ‘smart’ by making use of digital technology. Apart from creating greater employment opportunities it will contribute to innovation led economic growth.

The success of these cities would largely depend on the way they are managed and promoted. They will set benchmarks for our conventional cities to either adapt or risk losing people who will tend to move to new centers. After all it must be remembered that we owe something to our future generations.

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