



RESEARCH ARTICLE

Smart City Plan for the Health Care of Smart Population

Nilima Varma

Food and Nutrition Section, Dept. of Home Science

S.N.G.G. (PG) College, Bhopal

Email: nvarma44@gmail.com

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ABSTRACT

The concept of “smart”, cities has gained increasing attention as an approach for the management the urban city. Smart city is that which is able to make better decisions that result in increased quality of life for urban residents and the overall sustainability of the city. It is necessary to understand the impact of smart cities on urban environmental, social, economic and healthcare perspective. In order to achieve the goal of Smart Cities, one has to develop quite a number of technologies in the area of wireless and fixed communications networks, and many research challenges are identified. This paper shows that by combining smart homes with smart cities, we are able to provide an ICT infrastructure that exploits the entangled connections between the ambient assisted living, the smart homes, and the smart cities. Due to a growing number of health problems in people, it is a necessity to create the cities that are aware of the special needs of all their citizens including the needs of populations. Health care is important for citizens in general and in particular for the all male and female population. Smart cities need to address people needs across such as housing, social participations health care, and community support services, leisure, and culture, in order to make smart city environment friendly. It is a matter of challenge in the cities and societies which are mostly related to the fact that age causes age-specific barriers, such as limitations of mobility, visual and hearing impairments and a high disease susceptibility, especially for chronic diseases (diabetes, Parkinson’s disease, dementia, cardiovascular diseases). ICT solution implemented in the cities can help overcome mobility, visual and cognitive problems. ICT-based Independent Living Services can play an important role in helping citizens to live independently.

Key words: Smart City, Planning, Urban Sustainability, Smart Health, populations

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INTRODUCTION

The Smart City Mission was launched on 25th June, 2015 by the Ministry of Urban Development, Government of India with the objective of promoting aspiring cities to built/strengthen core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment supported by application of ‘Smart’ Solutions. The focus is on sustainable and inclusive development.

The concept of “smart”, cities has gained increasing attention as an approach for the management the urban city. Smart city is that which is able to make better decisions that result in increased quality of life for urban residents and the overall sustainability of the city. It is necessary to understand the impact of smart cities on urban environmental, social, economic and healthcare perspective. This Mission expects to drive economic growth and improve the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to Smart outcomes. To achieve “inclusive growth”, the Smart City Mission promotes integrated city planning, where the government’s policies such as ‘Swachhh Bharat Abhiyan’ and ‘Atal Mission’ for Rejuvenation and Urban Transformation complement each other.

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and cognitive problems. ICT-based Independent Living Services can play an important role in helping citizens to live independently.

Bhopal has been selected for development under the Smart City Mission (SCM) in 2015. A lot of activities related to area specific development and improving public services are expected to be taken up by 2020. However, due to lack of information, there is lot of concern among the citizen regarding the outcome of such development.

Coverage and Duration: The SCM, being rolled out in 100 Cities geographically spread across the Country, and expected to be completed in a period of 5 yrs. seven cities of Madhya Pradesh, viz. Bhopal, Indore, Gwalior, Jabalpur, Sagar, Ujjain & Satna are included in SCM.

STRATEGY

New areas (Greenfield) will be developed around or in close proximity to cities with a view to decongest the city and creating growth centers with optimal quality of life. In the case of redevelopment and Greenfield models of Smart Cities, in addition to the essential features mentioned above, at least 80% buildings should be energy efficient and green buildings. Additionally, of the total housing provided in Greenfield development, there should be at least 15% in the affordable housing category.

ESSENTIAL FEATURES OF SMART CITY PLAN

It is expected that the Smart city plan (SCP) will include a large number of infrastructure services and smart solutions. The elements that must form part of a SCP are-

1. Assured electricity supply with at least 10% of the Smart City's energy requirement coming from solar, energy efficient street lighting;
2. Adequate water supply including waste water recycling and storm water reuse, rain water harvesting, smart metering;
3. Sanitation including solid waste management;
4. Robust IT connectivity and digitalization;
5. Pedestrian friendly pathways, encouragement to non-motorized transport (e.g. walking and cycling);
6. Efficient urban mobility and public transport, intelligent traffic management, non-vehicle streets/zones, smart parking,
7. Innovative use of open spaces,
8. Visible improvement in the Area (e.g. replacing overhead electric wiring with underground wiring,
9. Safety of citizens especially children, women and elderly
10. Health care and education

OBJECTIVES

To conduct the study considering the following points

1. Provide basic infrastructure.
2. Quality of life.
3. Clean and sustainable environment.
4. Apply Smart Solutions.
5. Identify smart citizen
6. Health related problems solved digitally
7. Special ICT based care to elderly people

METHODOLOGY

In order to achieve the goal of Smart Cities, one has to develop quite a number of technologies in the area of wireless and fixed communications networks, and many research challenges are identified. This paper shows that by combining smart homes with smart cities, we are able to provide an ICT infrastructure that exploits the entangled connections between the ambient assisted living, the smart homes, and the smart citizens. All the information is taken as secondary information for the base of the study which will give fruitful results in future. Due to a growing number of elderly

people, it is a necessity to create the smart cities so that the smart people will become aware of the special needs of all their citizens including the needs of aging populations.

Health care is important for citizens in general and in particular for the elderly. Smart cities need to address people needs across such as housing, social participations health care, and community support services, leisure, and culture, in order to make smart city environment more friendly for the safety of women and children and elderly. "Smart cities have to be safe for women and girls, and must reduce inequalities between women and men," Urban life poses a number of risks with regard to the safety and security of women. It is important for urban policies to be guided women's perspectives, to provide not just a safe environment but a whole ecosystem that places the needs of women and girls at the centre of urban development.

Smarter healthcare Digital technologies are not only creating new health products, but smart is facilitating a change in how we manage our health. Smart is supporting a shift from a focus on cure towards a broader view of wellness management and healthy living. One vision of the future would be a world in which digital sensors scan your body, and communicate remotely with healthcare professionals who are able to use massive health datasets to analyse the information.

Based on this, highly personalised and daily set of medication could then be 3D printed as a pill for you to take with next to no interference in your daily routine. Shifts such as these are requiring a re-thinking of how our healthcare system is configured. New sets of collaborative relationships between technology companies, pharmaceutical and medical device manufacturers, and healthcare professionals are emerging and will be required to make advancements.

The health data is highly personal and sensitive therefore we will need a new generation of smart health consumers for advancement. Health monitoring devices have made it possible for physicians to remotely collect patient data to foster diagnostics, preventive care, and measurement of treatment results. They offer residents the convenience of receiving alerts for medication and health checkups. Users can also set up notifications and workflows based on health status so that proactive action can be taken. For example, in hospitals, electronic medical records can be used to set up notifications that are automatically sent to the staff when it's time for a patient to take medicine or when a test is due. In a similar manner, patients receive text messages on their phone to remind them of scheduled appointments.

Sensor networks for the elderly: Healthcare technology is designing to help the elderly stay in their own homes. The system includes a wall-mounted screen with Skype that allows care providers to check in, spoken reminders about daily tasks and events, and wireless sensors that send out alarms if, for instance, the stove is left on too long or someone opens a door in the middle of the night, it represents a big savings over what it costs to keep patients in nursing homes.

Care of critically ill children: The world's first cloud-based global education technology platform aims to improve the medical knowledge on the care of critically ill children no matter where they live. Children under age five die every year from illnesses like pneumonia, diarrhea and malaria even though there are medical solutions that could save their lives. Smart city explains the new platform- OPEN Pediatrics- "train's medical professionals using a unique on-demand, interactive, digital and social learning experience, equipping them to perform life-saving procedures and treatments for children who would not otherwise have access to intensive care."

SUGGESTIONS

1. A Compact smart city with better connectivity (through improved public transport system)
2. Developing old part of the city with a heritage look
3. Improving solid waste management;
4. Smart Policing
5. Smart Population
6. Smart health development
7. No city can be smart and sustainable if half of its population is not safe and lives in fear of violence

CONCLUSION

State Government reportedly has sent proposal to the Ministry of urban Development, GOI for the development of Bhopal as a smart city. Following area based development activities are proposed for Bhopal:

1. Under Retrofitting, an area consisting of more than 500 acres is proposed to be identified in consultation with the citizens. Depending on the existing level of infrastructure services in the identified area and the vision of the residents, the city will prepare a strategy to become smart. Locations under this activity include New Market, MP Nagar & Old Bhopal.
2. Under Redevelopment, an area of more than 50 acres will be identified in consultation with citizens. This activity is proposed to be implemented in 1100 Quarter, Shivaji Nagar 1250 Hospital, South TT Nagar & Chowk Bazaar.
3. Under Greenfield development, most of the Smart Solutions will be introduced in a previously vacant area (more than 250 acres) using innovative planning, plan financing and plan implementation tools (e.g. land pooling/ land reconstitution) with provision for affordable housing, especially for the poor. Greenfield developments are required around cities in order to address the needs of the expanding population. Areas under this activity include Bhowri – Fanda, Lambakheda, Smardha, RasoliyaJagir, Kolar Road & Mubarakpar Khurana.
4. Pan-city development envisages application of selected Smart Solutions to the existing city-wide infrastructure. Application of Smart Solutions will involve the use of technology, information and data to make infrastructure and services better.

Therefore the citizens from these areas are presently selected to make them smart for the future smart city. During the first phase they will be trained and made digital friendly so that they can freely use the IT connectivity in all means to live independently. Secondly they will be trained for all the health related devices and sensors so they can set themselves according to their health alarms in future.

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