IMPLEMENT TO A SMART CITY

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ABSTRACT:- *India's* population is increasingly shifting to urban areas, and now the policymakers are forced to answer the problems created by overcrowding pollution, budget limitations, resource constraints and the requirement for continuing growth. India has committed to the making of Smart Cities to meet the demands of its rapidly growing and urbanizing population. These efforts are taken for constructing new municipalities and renovating existing cities as the rural population shifts into urban areas. Smart city concept can be used for transformation of any city into a smart city. Smart cities have various advantages and it is a win – win situation for both, government and the citizens of the urban areas. Smart solutions can be helpful in controlling the increasing population in the cities. In this paper we will focus on the concept of smart city.

1. INTRODUCTION

Due to resource constraints, there will be a problem in the future to provide all the services to the residents of the urban area. To continue to serve and improve the standard of living of the growing population, develop mentation of smart cities is necessary. The Smart City's main aim is to make optimal and sustainable use of all resources, while maintaining an appropriate balance between social, environmental and economic costs. In the Smart City, there is a maximum use of ICT to improve the functioning, management, and supervision of the variety of systems and services, with an emphasis on saving energy, water, land and other natural resources.

A smart city wants to take the challenges of our time, such as those regarding sustainability and quality of life. This will be achieved for example by improving the efficiency of urban operations and services, as well as its competitiveness. And to ensure that city meets the need of present as well as the future generations, in terms of economic, social and environmental issues. In short, a smart city should be a good place to live in, with the best possible quality of life and with the most efficient use of resources and improve the standard of living of people.

In a smart city, there is an exchange of information and people work together on projects. In addition to this, smart cities are sustainable and they are economical with energy, water, raw materials, food and financial resources. Third, smart cities should encourage their residents, businesses and city services to invent different ways of organizing, sharing, communicating and producing. Furthermore, a city can be only smart when it involves its residents and companies in its projects. Finally, a smart city works on simplification of things: Everyone would rather have simple, transparent (public) services.

The main objectives of smart cities are as follows:

1) Improving environmental quality in the urban areas. Among other things, by reducing CO2 emissions, traffic and waste management.

2) Optimizing energy consumption, by creating energy efficient buildings, home appliances and electronic devices.

3) Strengthening the quality of life. Provide better public and private services, such as public transport and health services.

An ideal smart city could be a city where you can enjoy a healthy and pleasant life, where you can have reliable transport, where work is good and where it is safe and it is also a sustainable city. Where the economy is spreading new successful activities and where everyone in the city enjoys the culture. An ideal smart city, as a living organism, checks its vital functions, keeps itself healthy and minimizing the disadvantages of urbanization. It should be away with traffic congestion, housing shortage, unhealthy concentrations of fine dust, overpopulated inner cities, crumbling social structures, and noise

2. BACKGROUND/LITERATURE REVIEW

GIS Steering Smart Future for Smart Indian Cities by Anuj Tiwari & Dr.Kamal Jain (2014): The concept of a smart city is a new one in this paper. This paper depicts the smart city projects in India named as LAVASA: SMART HILL CITY & GIFT: GUJARAT INTERNATIONAL FINANCE TEC-CITY.

The Smart City Cornerstone: Urban Efficiency by Charbel Aoun (2013): This paper shows us a five stages of approach for changing over the urban centers into more efficient and sustainable places to live.

1. Setting the vision
2. Bringing in the technology
3. Working on the integration
4. Adding innovation

Driving collaboration Smart cities: Research Projects and good things to be practised for making the cities smart by Rocco Papa, Carmela Gargiulo.

Adriana Galderisi (2013): The concept of smart city is giving the answers for making a city more efficient & sustainable.

In the 1990's development of the information technologies was at the peak level & people felt that new technologies can be useful to produce new forms of productions, markets, society organization, industries, business districts, residential districts & many other things. The concept of smart city has become more and more widespread in the field of urban planning. Urban planners could give the fundamental direction for making cities smart by using smart devices, smart concepts and many other things

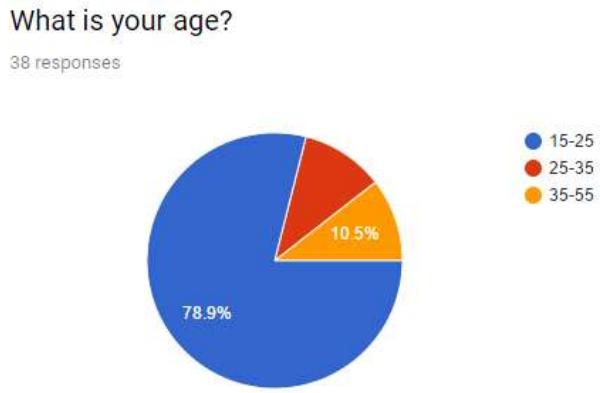
3. METHOD AND MATERIALS

Both quantitative and qualitative methods were opted for this research. Questionnaire method was used for survey. A questionnaire is a research instrument that consists of a series of questions (or other types of prompts) for the purpose of gathering information from respondents. Answers obtained through closed-ended questions with multiple choice answer options are analysed using quantitative methods and they may involve pie-charts, bar-charts and percentages and answers obtained through open ended questions are involved in qualitative research. Qualitative method provides answers to 'why?' and 'how? Qualitative research discussions are determined by respondent's opinions and feelings .A Google form was used to collect data. Following are the types of questions used in this survey:-

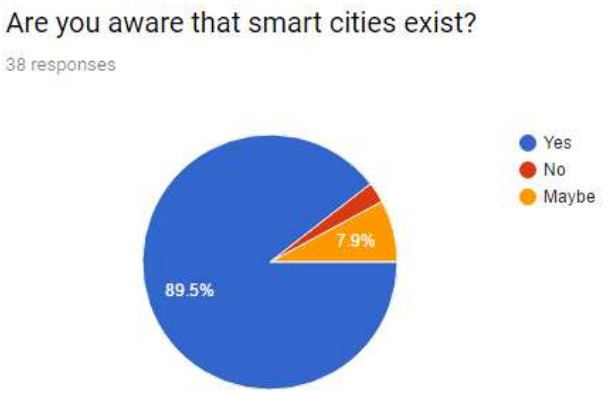
- Open-ended questions. These questions are asked when the answers are supposed to be descriptive as opposed to 'yes' or 'no' questions.
- Multiple choice questions. In these type of questions respondents are asked to choose from a set of answers.
- Dichotomous Questions. These are 'yes' and 'no' type of questions.

4. DATA AND RESULTS

The questionnaire was implemented with the use of google form and the link of these questions was sent to the respondents so that the responses could get collected in statistical format. Following is the result of the survey conducted for this research. Since quantitative method was used, bar graphs and pie charts are used to show the results. The questionnaire consisted in all 6 questions and was divided into sections since there was a section based answer. The respondents were asked for their email id and their age. Age groups were categorized accordingly.

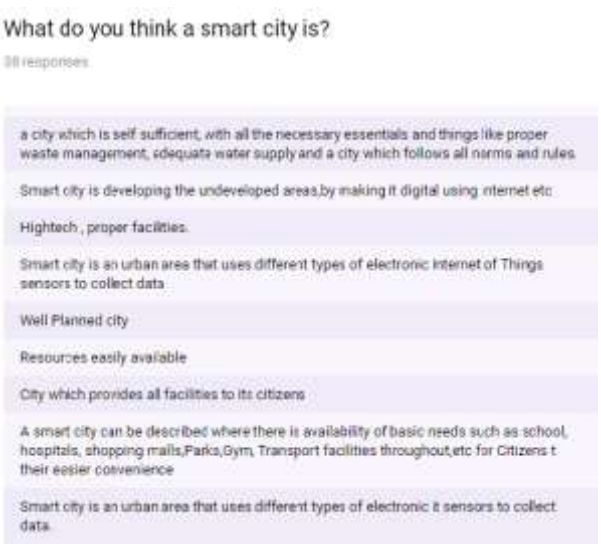


When asked about are they aware that a smart city exist, 89.5% i.e. 30 respondents replied that they know that smart cities exist while 7.9% i.e 3 respondents replied with a maybe. 2.6% i.e 1 respondent answered no. The population which with a negative answer belongs to age group of 35 to 55 and 55 and above.



Q. What do you think a smart city is?

From the responses received through the survey, it was quite clear that some people consider a clean city as a smart city, some consider that if a city is full of technologies are smart cities, some think that if the city utilizes all its resources without wasting them then the city is smart city.



Q. Do you think smart cities are broadly good or bad and why?

From the responses received through the survey, it was quite clear that maximum number of people think that making a city smart is good while few think that they are bad according to the research some people think that it harms nature.

Q. Do you think that smart cities are worth the economic cost and why?

From the responses received through the survey, it was quite clear that majority of people think smart cities are worth the cost while some think that they are not.

5. DISCUSSIONS

The main aim of the survey was to investigate what people think that what all things can make a city smart. When asked about are they aware that a smart city exist 30 respondents replied that they know that smart cities exist while 3 respondents replied with a maybe. 1 respondent answered no. The people with a negative answer majorly belongs to age group of 35 to 55 and 55 and above and who knows about a smart city where between 15-35 majorly. From this research we can clearly see that what all things are needed to make a city smart, what people think that can make their city smart.

There are so many benefits seen in smart cities and smart technologies, however, today we will focus on four main areas that have seen the most adoption and success in recent years.

Security

At the forefront of every city's concerns is ensuring the safety of the citizens that lives in the city. One expectation with the rapid increase in development of smart cities is an added ability of technology to monitor its citizens deeds using Closed Circuit Television Cameras (CCTV), these cameras ensure that if anything wrong happens anywhere the police would get alert and do the necessary needful that needs to be done.

Water/Waste Efficiency

A popular term when talking about smart cities is 'smart water' – and not the kind that comes in a plastic bottle. Instead, smart water means a water and wastewater infrastructure that makes sure that the energy used to transport water is managed effectively and efficiently for the betterment of the citizens."

Increased Awareness to Traffic/ Infrastructure Issues

A big benefit of a smart city is the ability of the technology to monitor certain traffic patterns and common congestion points through sensors located inside of cars and other vehicles. The data gathered can be as simple as an area where drivers are commonly required to quickly brake while driving, signalling either large volumes of traffic, dangerous areas, or intersections that may need to be reshaped for the public good. The conditions could be as trivial as a driver not being able to see clearly around a corner, leaving them to make a split-second decision that could result in a collision or even worse.

In addition to being able to improve traffic patterns, smart technology can also be used to monitor deteriorating equipment, such as traffic lights and pedestrian signals, or detect the effect of traffic on environmental conditions.

Transportation

A major aspect of any city is the ability to transport goods, services and people at an efficient and faster rate. Inefficient and irregular transportation, whether it could be excess in idling due to traffic on personal vehicles, increases harmful emissions of gasses and as a result, many cities are adopting smart technology to optimize travel and provide alternative options for the citizens.

What's Next for Smart Cities?

Smart cities are being taken in to consideration and are being recognised for their countless benefits and are the investment of the future to maximize efficiency, sustainability and improve life conditions of citizens living in them. As the world of inter-connectivity expands day by day, there is no choice but to embrace it and try to get ahead of the curve to ensure benefits seen worldwide can be seen in your local communities as well. From smartphones, to smart water, to smart cities, the world is getting smarter and smarter day by day, and its inhabitants need to keep up.

6. CONCLUSION

In India, administration in the cities are often confronted with a multitude of key problems, like unplanned development, inevitable population growth, lack of infrastructure, inadequate transport facilities, traffic congestion, lack of power supply, in competent health services, and lack of basic services both within the city and in the suburban areas, poor natural hazards management in overpopulated areas, crime, water, soil and air pollution leading to environmental degradation, climate change and poor governance arrangements are leading the urban citizen life in unhappy and unsatisfied. So it is the need of the hour to plan and build the smart cities in view of resolving these problems so we could make our world a better place to live.

7. ACKNOWLEDGEMENT

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8. REFERENCES

1. Pranay Gunna | Master of Science | University of Louisville, Kentucky
http://www.researchgate.net/profile/Pranay_Gunna

2. (PDF) Urban Environmental Challenges and Management in India (A study on Visakhapatnam smart city) Challenges and Management in India (A study on Visakhapatnam smart city)
https://www.researchgate.net/publication/304482218_Urban_Environmental_Challenges_and_Management_in_India_A_study_on_Visakhapatnam_smart_city_Challenges_and_Management_in_India_A_study_on_Visakhapatnam_smart_city

3. What is a smart city: An introduction - 3Bplus
https://3bplus.nl/smart-city-introduction/