SUSTAINABILITY CITY INDEX FOR AP

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This proposal aims to create a system of continuous evaluation and monitoring for urban centres in Andhra Pradesh on basis of global urban indicators.

1. BACKGROUND

Cities are the centres for commerce, science, productivity, social development, ideas, culture and many more. At their prime, the cities help the residents to grow organically towards social and economic advancement. A UNEP report bolstering the case for sustainable cities argues that if we are serious about conserving our natural resources, mitigating the effects of climate change and bringing about a vibrant and green economy, then cities are the epicenters of importance and action.

Post bifurcation, the new state of Andhra Pradesh is determined to develop its cities on the similar notions of livability and sustainability. This is also supported by the fact that the growth in new Andhra Pradesh state is concentrated in very few cities and GoAP finds it extremely urgent to distribute the envisioned growth to other urban centres too, building world class cities out of them. Simultaneously, it is imperative to create a system of continuous evaluation and monitoring for those urban centres on basis of global urban indicators. Hence, the GoAP is keen on conducting a study to establish an annual monitoring and evaluation system for gauging the progress of various cities of the state vis-à-vis other Indian and global cities through an index that would provide a platform for public and private decision-makers to address the gaps. The index identified for this purpose is 'Sustainable Cities Index' which in its 2015 edition ranked 50 cities of the world including Mumbai and New Delhi from India and latest and final edition in 2016 features 100 cities across the globe, with 5 Indian cities making an appearance

2. AIM OF THE PROJECT:

The specific aim of the study is to find this overall index value for each identified city of the state using the methodology defined in the index. There are certain indicators which don't require primary study and hence will be collected through secondary sources or from concerned departments. This will eventually be the basis for benchmarking cities of AP, using a global yardstick, amongst each other to begin with, cities of national prominence and subsequently with leading global cities. This exercise will enable Municipal authorities to lay a roadmap for their cities against the futuristic indicators of this index and monitor service improvement over time

3. OVERVIEW OF LITERATURE:

The 'Sustainable Cities Index' weighs and ranks cities over 32 indicators into these key areas, i.e. social wellbeing, environment, economy, business and infrastructure. It breaks the results down into three sub-indices, namely People (social), Planet (environmental) and Profit (economic) that combine to provide an

overall ranking for each city. The index not only benchmarks individual places as-of-today but offers a roadmap for future improvements outlining specific areas for interventions. Most importantly, this index offers a fundamental truth: cities have unique qualities based on their histories, geographic contexts, and level of development. While underscoring a city's character, its strengths and weaknesses, the Sustainable Cities Index provides a platform for public and private decision-making.

4. RESEARCH METHODOLOGY

The Sustainable Cities Index is constructed by a three-stage averaging process. Some of the indicators are composites. These take the simple average of their component sub-indicators. The three sub-indices are calculated by taking simple averages of their component indicators. In turn, the overall score is calculated by taking the simple average of the three sub-indices. Therefore, there is no weighting system applied. The scores are converted to percentages. Each is scaled such that the worst-performing city receives 0% and the best performer receives 100%. Since the sub-indices and the overall Index are simply averages of the indicators, they are also measured in percentage terms.

5. SCOPE OF WORK

- For the first year of study, we have identified 16 ULBs of Andhra Pradesh to be indexed in the study viz. Srikakulam, Vizianagaram, Visakhapatnam, Kakinada, Rajahmundry, Eluru, Vijayawada, Machilipatnam, Guntur, Ongole, Nellore, Chittoor, Tirupati, Anantpur, Kurnool and Kadapa. These 16 cities will be benchmarked against each other.
- In addition to this, out of the above 16 cities, 3 bigger cities, viz. Visakhapatnam, Vijayawada and Tirupati will be benchmarked against the 100 world cities which the parent organization (Arcadis) had initially selected. Please note that there will not a full 2017 report by Arcadis.

Data collection: Of the 32 indicators, the team proposes primary surveys to be conducted for two indicators. The remaining indicators in the index will be collected through secondary sources in collaboration with DES (Department of Economics and Statistics) personnel. Majority of the data (as mentioned in the following paragraphs) will come from department of Municipal Administration & Urban Development (MA&UD) as well as other concerned departments of the state of Andhra Pradesh. Post data collection, all responses will be collated and analyzed using statistical techniques prescribed by Arcadis/CEBR in their 'Sustainable Cities Index' report.

PEOPLE

Literacy rate: It is calculated for population aged 7 and above and is classified as effective literacy rate. Effective literacy rate: (Literate Pop. Aged 7 and above x 100 / Total population aged 7 and above). The Census 2011 statistics for Effective Literacy rate is available. However, to make the study more relevant, Praja Sadhikara Survey can be considered and literacy rate data has to be extracted from the Praja Sadhika Survey at ULB level.

University Ranking: University ranking for Andhra Pradesh was conducted by Andhra Pradesh State Council for Higher Education (APSCHE) for the year 2014-15. However, the report does not feature rankings for universities in Vizianagaram, Eluru and Vijayawada. A latest university ranking covering all the above mentioned ULBs is required. In this regard, APSCHE may be requested to conduct a study and come out with a latest university rankings for Andhra Pradesh. Their previous methodology used for 2014-15 can be continued.

Share of population with tertiary education: Share of population with tertiary education is computed as a ratio of population with tertiary education (20 years and above) to total population in a ULB. The figures for population with tertiary education at ULBs for Andhra Pradesh is available from census 2011. However, latest figures will be more relevant for the study and hence we suggest data from Praja Sadhika Survey to be considered for this parameter as well.

HEALTH

Life expectancy at birth: It reflects the average number of years a new born baby is expected to survive under the current schedule of mortality. It is a multidimensional indicator and measures nutrition, health, education and other valued achievements. It is calculated by using last 3 years' data on death rates in various age bands (Infant & Adult Mortality Rates).
Again, data from Praja Sadhikara Survey has to be considered to get data for life expectancy at ULB level or concerned departments has to be commissioned to provide data for calculating life expectancy at ULB level.

Morbidity Data: Please note that the 2016 survey uses obesity as an indicator to measure people's health. While the prevalence of obesity related health ailments is increasing, we believe that capturing prevalence rate of morbidity for non-communicable diseases will throw more light on the overall health status of the town/city.

DEMOGRAPHY

Dependency Ratio: Dependency ratio can guide policies for devising sound social security policies Ratio of dependents (people younger than 15 or older than 60) to the working-age population – (those ages between 15 to 60). The latest population age statistics has to be extracted from the Praja Sadhikara Survey instead of Census 2011 to make the study more representative and relevant.

INCOME INEQUALITY

Gini Coefficient: It is a measure of deviation of distribution of income among individuals or households within a country (ULB) from a perfectly equal distribution. A value of 0 represents absolute equality, a value of 100 absolute inequality. This estimate is used arrive at the Income inequality dimension in a ULB. The Income data has to be extracted from Praja Sadhikara Survey

LIVABILITY

The livability indicator consists of two variables; Consumer Price Index and Property Price Index. These variables reflect the affordability dimension from the citizens point of view. For Consumer Price, the Directorate of Economics & Statistics (DES) – Prices wing has the latest desired data at ULB level and can be sourced from them. For Property Price, IGRS (registration and stamps department) has data for all the ULBs chosen to be part of the study. Price per sq. ft (Land & Housing) is the proxy for property price index for all the ULBs in our study.

SAFETY

Crime Rate at ULB level: Crime rate is the crude measure of safety enjoyed by the people. It is usually derived with an aggregation of Indian Penal Code(IPC) Crimes, State Special Laws(SSL) and others. For Andhra Pradesh, State Crime Records Bureau under the Crime Investigation Department has a detailed report on crime rate for the year 2014. The report has, exclusively, data on only 5 of our chosen ULBs. We need data for other chosen ULBs and it has to be latest data to support the validity of the index and relevance of the study. Hence, an official requisition of State Crime Records Bureau to provide latest data on crime rate for all the chosen ULBs of Andhra Pradesh.

Crime Rate: IPC + SSL at ULB level

PROFIT

TRANSPORT & CONNECTIVITY

Transport satisfaction rate: This primary indicator to be taken for 3 bigger cities will be 'Survey of customer satisfaction in airports'. While for rest of the 13 ULBs the indicator will be 'Survey of customer satisfaction in city major bus terminal'. In this primary survey, we would interview 200 commuters per city, amounting to a total sample size of 3200 (13*200 +3* 200) commuters. It is desirable to ensure that the participants are representative of each terminus's traffic mix. The identified airports are: Tirupati, Vijayawada and Visakhapatnam. A draft Questionnaire has been prepared for the same.

Construction of a sample design for measuring Airport/Bus terminus satisfaction

Population: Users of the airports/City bus terminal
Sample: 200 respondents who are randomly chosen over a 15-day period

Congestion Rate: There are multiple was to capture congestion on any given stretch of road in a city. Duration, speed, congestion costs are some ways to do that. For this report, we propose to measure congestion by travel time. The TomTom Index (used by the parent organization) compares congestion levels by the amount of extra travel time across a year experienced by drivers during congested hours to measured travel times during uncongested conditions. By defining peak hours for these cities, we will be able to capture the increased time taken by employing GPS devices. Identification of roads of similar kind (local roads, arterials and highways) will be key to this exercise

Density of Public transport network has not been captured in the latest edition. Communities with greater access to public transport have witnessed higher public safety and standard of living. The team recommends considering this indicator from the previous edition to throw more light on the state of public transportation in our cities

BUSINESS AND ECONOMY

Ease of doing business: Ease of doing business Index tests regulatory environment for domestic businesses. Identifying small and mid-sized enterprises as the key drivers of growth, competition, and job creation in developing countries, the Ease of Doing Business Index assesses the regulatory standards that lead to the investment flows into any economy.

As the exercise to measure Ease of doing Business at ULB level is very elaborate and time consuming, we propose to conduct a perception survey among entrepreneurs in the identified ULBs to gauge their opinion about the number of procedures, time (days) and cost to start a new business. The respondents can be further divided into sub categories based on their capital investment. (small, medium and large-scale establishments)

GDP Per capita: GDDP data is available with DES and we can apportion the available district wise data to the identified ULB's based on population of the respective ULBs

Number of people employed, % of city population: Latest Population figures for ULB's can be sourced from the Praja Sadhikara Survey (PSS). PSS also has a mention of their employment status that allows us to find out employment rate for all ULBs

 TRAVEL & TOURISM

International and domestic visitors per year (absolute and per capita): District wise tourist arrivals (both domestic and international) can be obtained from the Tourism Department. It is very unlikely that this information is available ULB wise. We will once again have to consider geographical proximity to the identified ULBs. We can also establish communication with AP Hotel Association to obtain data related to inflow of tourists.

Mobile and broadband connectivity: Praja Sadhikara Survey has captured data for number of individuals with internet connections. However, number of mobile phone owners has not been captured in the survey. As the

adoption of mobile phones at such a fast pace is a very recent phenomenon, only the latest data for mobile phone ownership will be relevant. Data from 2011 census is redundant and not helpful in benchmarking towns that are witnessing transformation at rapid pace.

Importance in global networks: This indicator measures how integrated a city is into the world's network of cities. It examines cities on their connectivity through four "advanced producer services": accountancy, advertising, banking/finance, management consultancy and law. This can be measured by the number of MNCs/industries set up and working in the city (advanced producer services- applied in transnational contexts).

PLANET

Environmental Risks: It is calculated through the Natural Catastrophe Exposure. The data available to capture natural catastrophe exposure are numbers for inundation levels and wind speed, which is available district and sub district wise with APSDPS.

Green Spaces: Green space is calculated as a percentage of city area and has to be collected from AP Space Application Center (APSAC) and AP Urban Greening and Beautification Corporation Ltd. (APUGBCL).

Energy: It is calculated through energy use, renewable energy share, and energy consumption per $ GDP all of which can be collected from the Energy Department.

Air Pollution: It is calculated by the mean level of pollutants and can be collected from the Pollution Control Board, Hyderabad.

Greenhouse Gas Emissions: It is calculated by the emissions in metric tonnes (per capita) and can be extracted from the TERI study on climate change conducted for Andhra Pradesh.

Waste Management: It is calculated by solid waste management which covers aspects of landfill, recycling of wastes, composting, waste to energy plants within the city premises. It also includes share of wastewater treated. The figures for the indicators above are available from the MAUD department.

Drinking Water and Sanitation: This aspect is calculated through the indicators of total households with treated tap water within premises which is available with MAUD Department. Sanitation includes total households with latrines within premises which is available with Swaccha Andhra Corporation and may also be extracted from the Praja Saadhikara Survey

In addition to the variables mentioned above, the team reckons that critical issues concerning governance, civic participation and diversity will be a worthwhile addition to this index study. We propose to include these parameters in the AP's Sustainability index calculations. Municipal voter turnouts, interstate migrations, tax collection trends etc. have deep influence in sustaining the growth trajectory of a city. It is important to mention

that data for different variables are available at different years. However, only the latest available information is taken into consideration

Data collection and Analysis: Data availability, collection methodology, sample design, timelines and expected deliverables will be established for each data point for each of the identified cities city in the planned format. This will be followed by the analysis of the data as per the suggested methodology using MS-Excel and other basic tools, if necessary. The final submission will be in a form of a report in the required format. The Primary survey may involve visiting the identified cities.

Implications: Undertaking an exercise to establish Sustainable City Index for the State of AP will allow the state to identify key areas of improvement for its cities and project its performance in these globally recognized, futuristic parameters. Monitoring and evaluation of performance will become more streamlined enabling the state to direct investments more efficiently and effectively.

Points to note

1. Data points belong to different years. For example, information from Praja Sadhikara Survey will be from 2016-17.
2. For certain indicators such as GDP, Tourism, and industries – data is available only district wise. These numbers can be apportioned to ULB's based on population or proximity.

References:

1. 'Sustainable City Index 2016: Putting people at the heart of city sustainability', Arcadis and Center for Economic and Business Research, 2016
2. 'Sustainable Cities Index 2015: Balancing the economic, social and environmental needs of the world's leading cities', Arcadis and Center for Economic and Business Research, 2015

About the Vision Management Unit

Government of Andhra Pradesh established a Vision Management Unit (VMU) under the Planning Department for strategic management of vision programmes and projects to coordinate actions among all concerned stakeholders from within the government and outside in terms of planning, implementation and monitoring. Apart from integrating various vision initiatives and interventions into the annual planning and budgeting processes of the state government, the VMU also monitors and publishes periodicals and thematic studies on the transformation areas identified in the vision to provide an integrated picture of vision achievements.

The unit is a vibrant team of young professionals from diverse backgrounds who work together on data, targets, performance indicators, global studies, best practices and global standards to prepare recommendations to achieve the state's Vision 2029.

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