

Akaash Open Enterprise Center

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SMART Profilometer

- Part 3 for Consumerism

Part 1 of the reckoner focuses on solutions for urban landscapes and Part 2 focuses on rural landscapes.

A. Background

India is developing into a country that has SMART Cities and in the future may be even one with SMART States.

The term SMART refers to the sustainable and innovative focus given for solving problems and crisis situations of people living in that city.

AOEC offers a toolkit on “Sustainable Construction and Building/Facility Maintenance”, where different components focus on existing and emerging problems. The offering helps architects, builders, construction companies and developers universally work on implementing solutions for the emerging crisis of poor Quality of Service (QoS).



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Failure Modes and Cause & Effects Analysis for consumerism of mainstream resources

B. Connecting consumer data crisis

The current issue in India, is that there is a need to connect consumer data to incorporate a QoS experience. The term QoS stands for Quality of Service, where the consumer is profiled to understand the FMCEA (Failure Mode Cause & Effects Analysis) that is critical to ensure sustainable consumerism.

The projected insight is that we must soon be able to **(a) Define profiles** for consumerism that can be **(b) Refined (for Design Elements Conformity) and thereon put into use in resource consumption, (c) Governed and (d) Greened** to ensure we can make consumerism of resources like energy, water, petroleum products (fuels like petrol, diesel, LPG) and critical infrastructure more eco-friendly and sustainable.

C. Reckoning

Each city, district or state has its own limitations in governance and a lack of natural resources to address any shortage of resources like energy, water and petroleum products. We start off this reckoner by categorizing cities as

- + SMART Cities
- + In the process of developing into a SMART City
- + Traditional Cities (where SMART solutions are not yet intrinsically part of the city's planning and development roadmap)
- + Tomorrow's Cities (where semi-urban landscapes are developing into urban landscapes). A Part called Continual Emergence in this reckoner series will focus on this subject.

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D. Case scenario of a PAN component city

For the reader, the government has released a tabulation of different components that should be part of a city's planning and development (for it to be categorized as a SMART City). This reckoner looks at a PAN component city, where most of the components have been designed and implemented.

In this case scenario, let us say that the city has grown due to the "availability of space, the location being suitable for SMART habitat development and also as it is close to industry zones".

In this case scenario, let us say that promotional endeavors have helped this city grow in strides. But the problem being that - no attention was paid to the need to conserve the Landscape and Assets of the associated region. Today as a result of this, there is less sustainable resource management.

D.1 To review why

Let us say this has happened though the Building/Facility and Construction industry has done its best to utilize space and wherein associated civic bodies have also implemented different norms, regulations and methodologies to improve the facilities available to people living there.

For architects, builders, construction companies and developers, to universally mitigate the emerging resource management crisis - AOEC is reviewing the need for a solution offering called the "**TrendOp Profilometer Desk**" that can be implemented at site, or in a high-performance building or facility.

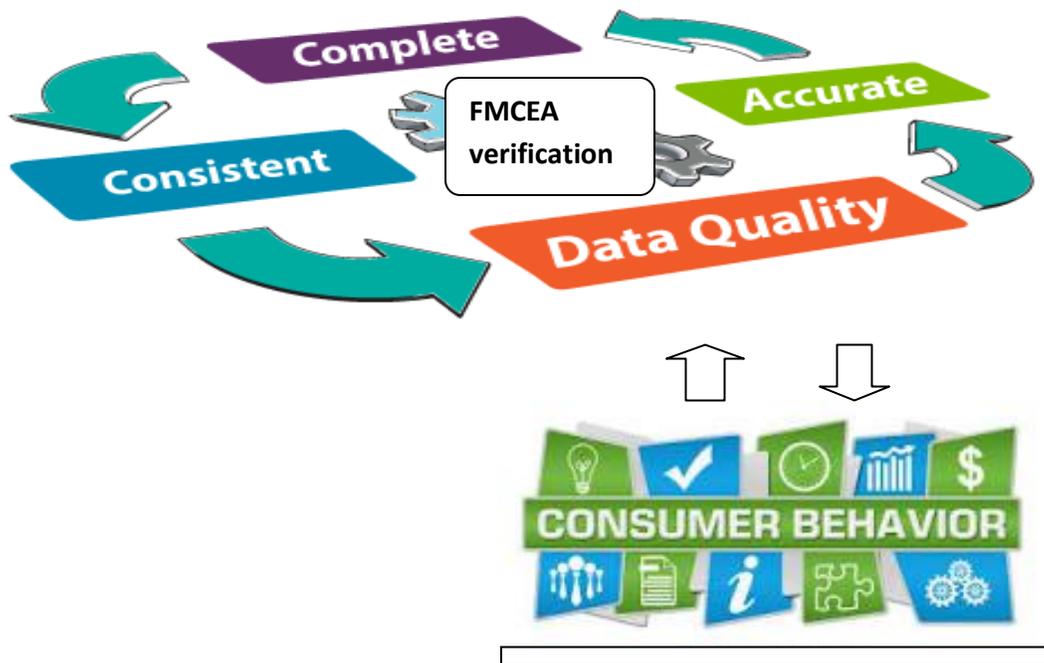
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For those interested, this solution highlight is part of AOEC's Gap Analysis toolkit for ASSET Culture.

Some details in the toolkit are as follows



1. Keeping the future in mind, it is important for today's cities or sites of habitats to design, to implement and support "Clustered Profile environments with Quick organizational frameworks to accelerate conditioning for Governance, Management and Quality with Autonomous Control".

2. AOEC finds that cities or sites of habitats need to immediately assess lacunae, bridge gaps, or orchestrate demand fulfilment with the help of new Sustainable Resource Centers and schemes for SMART Habitat Apps for auditable FMCEA verification, that can accelerate and improve norms, patterns or behaviours of consumers, which can in turn design and control cradle-to-grave lifecycles to suit different needs for climate change mitigation.

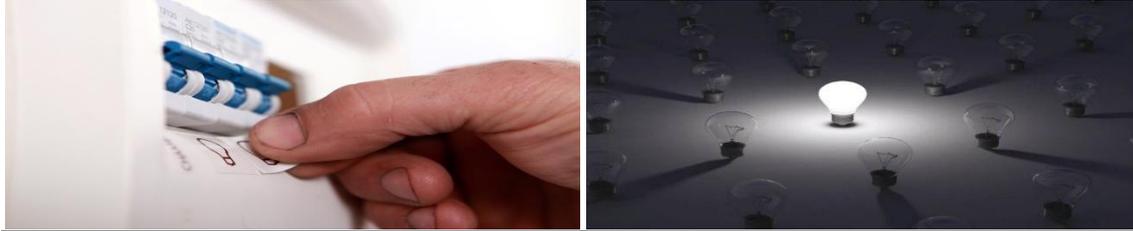
3. The offices of such (Value Added) Resources and Development Institutes or Resource Centers can be located in industrial zones or belts or mandatory or vulnerable locations, so as to help sites of habitats use opportunistic & advisory evaluations (termed as **Helping Utilization Grow** evaluation and **Resource Specific Advisory** evaluation) for their practices to add self-fulfilment, self-conditioning and self-critical management for sustainability. There are Resources and Development Institutes operating in different countries of the world, so the interest to help utilization grow can make our tomorrows sustainable.

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To identify what can affect consumers tomorrow “details of some scenarios” follow in the next few pages.



1. Case scenario for electricity generation and utilization

Let us say in this projection, years later, the energy crisis affects consumers where the extent of the problem (of special interest to architects, designers, developers etc) can be summarized as

- + As there is no sizable power plant or water body close-by, there is no source for SMART habitat based (continual) supply of non-hydro or hydro electricity to a state, region or city. The problem could magnify when there is a need to co-govern the flow of rivers being shared between states (the document states that the interest to address this problem is possibly a **SMART Energy management** PAN component for all cities)
- + As there is no exchange of experiential, knowledge and learning specific criteria, **heuristic systems** cannot predict inadequacy about needs or sustainable needs for electricity. The need today is for consumers and their consumption to be categorized on the basis of **FMCEA RATINGS** that indicate what impact the consumer can face if there is a failure, outage or shortage in the grid and feedback systems.
- + As there is no exchange of experiential, knowledge and learning specific criteria, heuristic systems for the grid and feedback cannot help utilization grow as there are no policies or schemes that help consumers earn **FMCEA Points** or save a resource like electricity.



The insight being that **FMCEA Points** earned via heuristic systems could help what can be called as accountable availability of mainstream resources for consumers that could use residual savings to avail of 24/7 electricity needed for mass life support functions.

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2.1. Case scenario for water availability

Let us say in this projection, years later, the water crisis looms large where the extent of the problem (of special interest to architects, designers, developers etc) could thereon be summarized as

- + As there is no sizable water body close-by, there is no source for continual supply of water (the documentation states this can be a **Water Availability** PAN component for all cities)
- + As there was no prior assessment on how Cloud seeding could help this location, so today this solution is not suitable (this documentation states that this can be a **Cloud Seeding for Water Availability** PAN component for all cities)
- + There was no **Clustered Profile Survey** requested aprior from the Meteorological Department to predict whether this location will in the future fall in the severe rainfall shortage, scanty or unpredicted rainfall category (AND also) there were no futuristic predictions available to plan for the suitable utilization and recharging of ground water using any profiling of consumerism

Due concerns are also issues like the following:

- + Waste disposal has polluted the ground water
- + There is no functional data available on how many borewells are active throughout this part of the city
- + Today, water is being supplied at specific times of the day, but the supplied water cannot be pumped to overhead tanks (**as the height at which tanks have been built do not suit any Clustered Profile specific water scantiness or shortage predictions**)
- + Drinking water “setback” is looming large as people are forced to use commercially purchased drinking water for different reasons
- + Water tanks of most nearby residential sites are dry
- + Water tankers are being pressed into service but there is no sufficiency of supply
- + The industry zones close-by are using the available water irrespective of the crisis in the city
- + Agriculture, horticulture and floriculture have been affected

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2.2 The proactive preparedness, sensitization and adherence that can help

This reckoner proactively states that in such a scenario, people are going to want immediate resolution of the problem with a guarantee that there will be sufficiency in solutions. AOEC's toolkit offerings include gap analysis that recommends solutions include aspects such as

- + Responding to a river system with details on strategic zoning
- + Waste management in cities, locations or regions close to rivers
- + Responsiveness for water shortage
- + Sensitization and adherence for water conservation and management

You can ask for more details by calling the consultant on +91 9342867666 or by emailing venkataoec@gmail.com

With this involvement and interest in mind, this reckoner outlines some steps (of special interest to architects, designers and developers) that can alleviate the problems mentioned:

- + Major step: **Rejuvenation of close-by water bodies or construction of man-made lakes** that can SMARTLY supply water to the location
- + Immediate step: **Development of a SMART City grid for the development and maintenance of water transport routes and facilities** to regions where interconnections are planned on a priority basis or vulnerability basis. It is known that water transport in India is through water tankers.
- + Major step: **Development of Water ATMs** in all well-planned locations of the city, as a proactive involvement of builders and developers, so there is no shortage of drinking water.

Tomorrow, supportive policies and incentives from the government will ensure that builders and developers do not treat this as a social responsibility, but as a seeding for drinking water supply.

The question as to how will builders and developers source water for this purpose: is answered by stating that they can invest in new concept Water Bhandars and treatment plants as a "Building and Development strategy".

- + Major step: **Development of Water Bhandars that work on the principle of gravity**, so water from these Bhandars(big public water tanks) can be supplied with pressure sufficient to reach private overhead tanks (at well-defined locations in any dwelling, site or facility)

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The current need is for builders, architects, designers and developers to incorporate such thinking (in their construction and building maintenance) as this can help address issues like

- a. Lack of sufficient pressure
- b. Lack of 24/7 power supply
- c. Lack of any seeding to address scenarios, where drinking water (being supplied separately) is being used as a relative alternative

Today all overhead tanks are not placed in a sustainable manner to suit the principle of Water Bhandars and filling due to gravity, where it is well known that this principle is used to pump water to suitable levels with suitable pressure.

Our independent planning for construction of overhead tanks is not the solution for any long-term step. There must be a best practice or regulatory guideline to recommend how water tanks need to be constructed at sites/buildings/factories in particular construction endeavors or at particular locations or cities.

+ Major step: **Incorporation of SMART Consumer solutions** that ensure an “accountable” surveillance of borewell installations, swimming pool installations, rainwater harvesting systems and PAN component storm water drain solutions.

+ Major step: **Deployment of SMART meters in consumer sites** where consumption levels are high. This can be used to ensure these consumers provision water and always reuse waste water.

Government-aided policies for renewable water utilization in stages like locations where consumption levels are high or supply of water is scarcely sufficient. In these scenarios, reusing water can be done in 2 stages, reuse of waste water (as a first step) and reuse of black water (as a second step).

Ensuring this step is government-aided can help healthcare authorities (in charge of mitigating water borne diseases) and civic bodies manage all installations for sustainable and high-quality performance.

+ Central government involvement: If all this is insufficient, the civic bodies can approach the Central government to work out **strategic zoning of associated river systems** to help prevent water shortage crisis in the times to come.

Inter-linking of rivers, altering courses of rivers are all high-investment and tomorrow-implementations, where the time and energy spent will not meet current demand.

+ AOEC finds that **strategic altering courses of rivers, working on shorelines, embankments, water conservation installations** in times of floods, cyclones, heavy and unpredicted rainfall are solutions that can “setback” the water crisis emerging today.

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E. AOEC's toolkit offerings

You can ask for AOEC's toolkit for "Sustainable Construction and Building Maintenance" to assess your site's sustainability.

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