











# TELANGANA State Sanitation Strategy - Urban

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#### TELANGANA STATE SANITATION STRATEGY

Developed by

State Level Sanitation Committee (SLSC), Commissioner and Director of Municipal Administration Department, 640, AC Guards, Hyderabad – 500004

In technical collaboration with GIZ Project– Support to National Urban Sanitation Policy

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January 2017

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Under National Urban Sanitation Policy, 2008

Telangana: State Sanitation Strategy - Urban

### **MESSAGE**



Navin Mittal, IAS Secretary to Govt. MA & UD Department

I am glad that the state of Telangana has taken steps forward towards making the state clean, healthy and safe for all its citizen. Sanitation is more important than independence", Mahatma Gandhi famously said. Following the Gandhian ideal of 'sanitation for all', in its biggest and most recent cleanliness drive, the Government of India launched the flagship program 'Clean India Campaign', as the 'Swachh Bharat Mission' with an vision to achieve open defecation free and cleaner Indian cities by 2019. Government of Telangana has

been fore-runner in launching the Swachh Telangana Mission with a goal of achieving "Open defecation free cities" by 2019.

It gives me immense pride to say that inspite of being the youngest state of India, Telangana has boldly set improvement of sanitation as one of its top most agenda. The vision of the state is to ensure that "All cities and towns in Telangana become totally clean, sanitized, healthy, liveable, ensuring and sustaining good public health and environmental outcomes for all citizens, with a special focus on hygienic and affordable sanitation for the urban poor and women".

To achieve the vision, the MA&UD Department has articulated the Telangana State Sanitation Strategy (SSS). The document provides an overview of the existing scenario of sanitation in urban local bodies of the state and integral solutions for addressing the issues and cross cutting sectors. Further, the SSS, sets a planned approach for improving the urban sanitation in the state in phased manner. The implementation of recommendations in the document across various cross cutting sectors would result in addressing the various sanitation issues and needs in the urban local bodies in a holistic and sustainable manner.

I appreciate and congratulate the State Level Sanitation Committee (SLSC) for takingup this leadership role in developing of the 'Telangana's State Sanitation Strategy'. I would also like to thank GIZ for extending support in the preparation of SSS and providing technical inputs to the state in its attempt to prepare this guiding document for improving the overall sanitation service standards in urban local bodies of Telangana state.

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Navin Mittal

### PREFACE



Director of Municipal Administration MD TUFIDC and MD MEPMA

The State of Telangana is committed to implement the National flagship programme of India for urban areas, namely Swachh Bharat Mission (SBM), AMRUT and SMART Cities. As part of the SBM, it is envisaged that all states should develop a concept on the State Sanitation Strategy and work towards its implementation. The State Sanitation Strategy of Telangana has been developed on the same line. The vision of Telangana State Sanitation Strategy is to achieve an urban Telangana that is totally sanitized (safe), healthy, livable and climatically responsive, with cities / towns that are managed by ULBs, with citizen and stakeholder participation in particular women and

poor. The document provides an overview of the existing scenario of sanitation in the ULBs of state withintegral solutions addressing the issues while showcasing linkages with cross cutting sectors. It covers the overall sanitation sector including the sub sectors of solid waste, waste water (including septage), storm water drainage and drinking waterwhich is a vital to achieve the desired sanitation service levels in thecities. The strategic aspects like capacity enhancement, finance, technology, inclusiveness, climate change responsiveness, institutional and governance strengthening are also integrated in the document

A consultative approach was adopted development of the SSS with the constitution of State Level Sanitation Committee (SLSC) vide Government Order (GO) Rt No. 8 dated 08.01.2015 headed by the Principal Secretary MA&UD Department, comprising of Principal Secretaries, HoD's of concerned departments with an objective to provide strategic guidance for the preparation and operationalze the State Sanitation Strategy.

The recommendations mentioned in the Telangana SSS needs to be prioritized by the state based on resources available in consultation with the SLSC. Various departments to be involved in the sustainable and successful implementation of the SSS.

I would acknowledge the officials and GIZ team who have contributed in developing the 'Telangana's State Sanitation Strategy'. I am hopeful that this document will help the cities of Telangana prepare a robust plan for improving the sanitation sector of their cities.

Dr T.K. Sreedevi

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## **ABBREVIATIONS**

AMRUT	Atal Mission for Rejuvenation and Urban Transformation
ASCI	Administrative Staff College of India
ATI	Administrative Training Institute
CSP	City Sanitation Plan
CDP	City Development Plan
C&DMA	Commissioner & Directorate of Municipal Administration
СРСВ	Central Pollution Control Board
CPHEEO	Central Public Health and Environmental Engineering Organization
DEWATS	Decentralized Waste Water System
DWSM	District Water & Sanitation Mission
ESA	External Support Agency
GHMC	Greater Hyderabad Municipal Corporation
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GO	Government Order
HHs	Households
HODs	Head of Departments
IMR	Infant Mortality Rate
IPHC	Inter Personal Hygiene Communication
ILCS	Integrated Low Cost Sanitation
IUIS	Integral Urban Information System
JNNURM	Jawahar Lal Nehru National Urban Renewal Mission
MFI	Micro Finance Institution
MIS	Management Information System
MOUD	Ministry of Urban Development
MT	Metric tonnes
MA&UD	Municipal Administration & Urban Development
MCRHRD	(Dr.) Marri Channa Reddy Human Resource Development institute
MEPMA	Mission for Elimination of Poverty in Municipal Areas
MLD	Million liters per day

NAPCC	National Action Plan on Climate Change
NGO	Non-Governmental Organization
NIUM	National institute of Urban Management
NRCD	National River Conservation Directorate
NUSP	National Urban Sanitation Policy
O&M	Operation & Maintenance
ODF	Open Defecation Free
PHMED	Public Health & Municipal Engineering Department
RCUES	Regional Centre for Urban & Environment Studies
SAR	Sector Assessment Report
SBM	Swachh Bharat Mission
SHG	Self Help Group
SIUD	State Institute of Urban Development
SLB	Service Level Benchmarks
SGDP	State Gross Domestic Product
SWM	Solid Waste Management
SLSC	State Level Sanitation Committee
SNUS	State Level Nodal Agency on Urban Sanitation
SSS	State Sanitation Strategy
TMDP	Telangana Municipal Development Project
TSRTC	Telangana State Road Transport Corporation
UDG	Underground Drainage Facility
ULB	Urban Local Body
UIG	Urban Infrastructure & Governance
UIDSSMT	Urban infrastructure Development Scheme for Small & Medium Towns
USD	US Dollars
WGSUH	Working Group on Sustainable Urban Habitat
YASHADA	Yashwantrao Chavan Academy of Development Administration

# **1. INTRODUCTION**

Sanitation for the purpose of Telangana State Sanitation Strategy (TL-SSS) is defined as the safe management of human excreta, including its safe confinement treatment, disposal and associated hygiene-related practices. The Telangana SSS recognizes providing primacy to integral solutions that covers sub sectors of solid waste, waste water (including septage), storm water drainage and drinking water. The aspect of sustainability is at the core of the strategy by looking at the dimensions of capacity enhancement, finance, technology, inclusiveness, climate change responsiveness, institutional and governance strengthening.

The Twelfth Five Year Plan (2012-17) of the state of erstwhile Andhra Pradesh targets to reduce the gap between the demand and supply of urban infrastructure services by increasing investments in urban infrastructure. The National Urban Sanitation Policy (NUSP) of Government of India announced in 2008, entrusted state governments to prepare their State Sanitation Strategy (SSS) in line with constitutional provision. As per the Constitution, 'water' and 'sanitation' are classified as state subjects. 'Water' is included in Entry 17 under the List II i.e. the State List of Seventh Schedule, explained as:

"Water, that is to say, water supplies, irrigation and canals, drainage and embankments, water storage and water power subject to the provisions of Entry 56 of List I"

- 'Sanitation' is a subject matter included in Entry 6 of the State List as established through Article 246 of Constitution of India.
- India is committed to the Sustainable Development Goals (SDGs), Post Development Agenda 2030 which entails 17 Goals. Goal 6 is on Clean Water and Sanitation which says – "Ensure availability and sustainable management of Water and Sanitation for all".
- The National Five Year Plan for the period 2012 2017 has identified the urban sector as one of the eleven priorities in the country.

### Need for State Level Sanitation Strategy for urban areas

Improved sanitation is one of the critical determinants of the quality of human life that largely impact the outcomes for public health, environment and dignity. The positive outcomes of the sanitation interventions contribute to the economic growth propelled by

# **ABOUT TELANGANA**

The new state of Telangana formed on 2<sup>nd</sup> June 2014 with the enactment of Andhra Pradesh Reorganization Act 2014 with Hyderabad as its capital. The state comprises of 31 districts as per the Telangana district reorganisation undertaken in 2016. The Census 2011 reports urban population of Telangana state as 13.72 million representing about 38.89 percent of total population. Most of the net increase in the urban population is contributed by five erstwhile districts of Hyderabad (100 percent), Rangareddy (70.32 percent), Warangal (28.34 percent), Adilabad (27.68 percent) and Karimnagar (26.08 percent).

The urban population of the state is 1,37,24,566 spread across 73 Urban Local Bodies consisting of 6 Corporations, 42 Municipalities of all grades and 25 Nagar Panchyats and 1 Secundrabad Cantonment including the 13 urban agglomerations and 79 census towns as per 2011 census. The net increase of urban population between 2001 and 2011 is 38,71,779 persons. Hyderabad is the 100 percent urbanized district in the state with Greater Hyderabad Municipal Corporation more than 50percent of the state urban population. The urban areas contribute close to 53.76 percent of the economic growth in the state. The secondary sector contributed 24.72 percent to the State Gross Domestic Product (SGDP) while primary sector contributed about 21.51 percent for 2010-11. If the trend on the economic growth is to be maintained or increased it is imperative to focus attention on the urban areas with robust sanitation infrastructure.

# 38.89 percent of total population lives in urban areas

1,37,24,566

livable cities. Investments made in the sanitation sector for urban areas will not only yield higher human development indicators but will also contribute to the state's economic growth. The state has a huge dependence on the industrial and services sector. About 45.2<sup>1</sup> percent of the workforce is in non – agricultural sector.

The National Urban Sanitation Policy (2008) stipulates each state to formulate its own Sanitation Strategy & each city to develop a City Sanitation Plans (CSP) as a city level instrument for sanitation sector planning. The Telangana SSS is a major fillip to guide the MA&UD Department to prepare and operationalize CSPs as a supplementary tool to City Development Plans (CDPs) and Master Plans on Land Use.

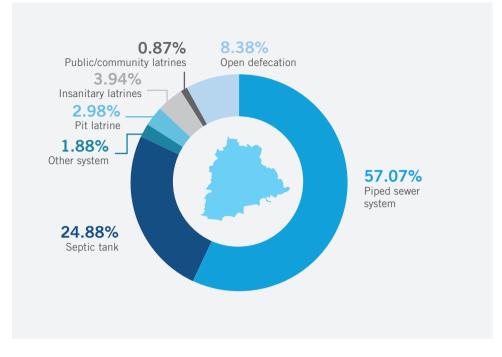
The Service Level Benchmarks (SLBs) institutionalized by the Ministry of Urban Development (MoUD) is also one of the conditions of the Thirteenth & Fourteenth Central Finance Commission. The development of the Telangana SSS and its implementation will help to guide the ULBs to perform better on the SLB indicators.

The national flagship programme for urban areas, namely Swachh Bharat Mission (SBM), AMRUT and SMART Cities are been implemented in the state. As a part of SBM, it is envisaged that states should develop a concept on the State Sanitation Strategy and work towards its implementation.

#### 1.2 Urban Sanitation – Facts & Figures – Telangana

- As per the census report 2011, 91.62 percent of urban HHs in Telangana have access to toilets as compared to national figure of 81.4 percent.
- Open Defecation in Urban Local Bodies is 8.38 percent which is lower than the national average of 12.6 percent. There are 2,27,094 urban households practicing open defecation out of 27,11,202 total urban households in state as per the Census 2011.
- 57.07 percent of Telangana urban population are connected to Piped Sewerage networks(Under Ground Drainage-UGD) with 98.5 percent in Hyderabad. Apart from GHMC, only 3 cities have existing Underground Drainage facility. UGD facility 4 towns of Telagana are under implementation.
- Lack of formal mechanism of septage management is leading to disposal of septage or fecal sludge into the water bodies, drains and open areas in and around the cities without any treatment in 73 ULBs of the state.
- ULBs in the Telangana state on an average generates about 66287 MT of wastes per day, while the per capita of waste generation in the ULBs ranges from 0.3-0.4 kg/ per day. The quantities of waste are growing 5 percent annually and the collection

1 Approach to the 12th Five Year Plan of Andhra Pradesh, January 2013



efficiency is 80 percent. Lacks systematic planning across the SWM value chain to compliance with the SWM Rules 2016. Apart from GHMC, Majority of the ULBs lack proper treatment and unscientific disposal.

• Inadequate and improper maintenance of storm water drains with frequent flooding and choking of drains leading to unhygienic environment

### Steering and stakeholder consultations

The Government of Telangana contributed the State Level Sanitation Committee (SLSC) vide Government Order (GO) Rt No. 8 dated 08.01.2015. The SLSC was set up to provide strategic guidance for the preparation and operationalzing the State Sanitation Strategy with periodic evaluation of progress across departments for better convergence and to achieve the goals envisaged in the State Sanitation Strategy. The committee is headed by the Principal Secretary MA&UD Department with Principal Secretaries and Head of Departments (HoDs) from the following departments namely,

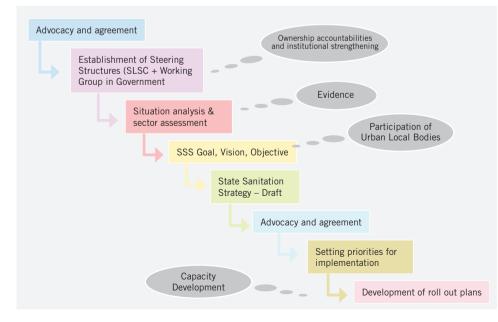
- Health Department
- School Education Department
- Finance Department
- Environment Department
- Greater Hyderabad Municipal Corporation (GHMC)

- Commissioner & Director Municipal Administration Member Convener
- Mission Director Mission for Elimination of Poverty in Municipal Areas (MEPMA)
- State Pollution Control Board (SPCB)
- Telangana Urban Finance and Infrastructure Development Corporation (TUFIDC)
- Chief Engineer Public Health & Municipal Engineering Department (PHMED)
- Director Town and Country Planning (DT&CP)
- Telangana State Road Transport Corporation (TSRTC)
- South Central Railways- SCR
- Administrative staff College of India (ASCI) & GIZ as Special invitees

The Commissioner and Director of Municipal Administration (C&DMA), Government of Telangana was designated as the member convener and the nodal office for the purpose of steering the development of State Sanitation Strategy with support of the commensurate department represented in the Working Group chaired by the C&DMA. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) was identified as technical partner for overall development of the Strategy.

A six stage process was carried out to develop the SSS. Two significant steps were to prepare an Urban Sanitation Sector Assessment Report (SAR) and consultations with the Urban Local Bodies (ULBs) in the state of erstwhile Andhra Pradesh for delineation of vision and goals of the strategy.

The SLSC meetings were conducted thrice and the working group meetings were attended by the departments to finalize the Sector Assessment Report. Also, ULB consultation



was carried out with the C&DMA in Chair to share the Sector Assessment Report and finalize the vision and goals of the strategy.

### **Policy environment**

The NUSP envisaged a key role for the state governments to develop their State Sanitation Strategies by recognizing the water and sanitation problems existing across urban local bodies in the state. There are various initiatives undertaken in the sector of water and sanitation in the state of erstwhile Andhra Pradesh. Such projects have been facilitated and supported by the C&DMA.

There are external agencies such as the World Bank that are supporting Telangana Municipal Development Project (TMDP) with the basic objective to improve urban infrastructure services at the ULBs and to enhance the state and local capacity to sustain the improvements. The four major components of this project are; (a) State level policy and institutional development support, (b) Capacity enhancement (c) Urban infrastructure enhancement and (c) Project management technical assistance.

Under the UIG (Urban Infrastructure and Governance) component of JnNURM, there were 52 projects sanctioned in the erstwhile state of Andhra Pradesh with an allocation of Rs. 2118 Crores. In the UIDSSMT scheme in esrtwhile state, of the total cost of Rs. 2459.96 crores majority has been allocated to water supply, while the sewerage sector comes second on the list with i.e Rs 1795.69 crores and Rs 350.46 crores<sup>2</sup> respectively.

The urban local bodies in Telangana are largely steered by the Andhra Pradesh Municipalities Act 1965 for the Municipalities and Andhra Pradesh Municipal Corporations Act 1955 for the Municipal Corporations.

The Andhra Pradesh Town Planning Act, 1920 provides for the preparation of town planning schemes in respect of all lands within the municipal area to ensure regulated development of towns to secure their present and future amenities and conditions.

The Andhra Pradesh Urban Areas (Development) Act, 1975 has been enacted in the state that guides the planning of urban development through master plans or general town planning schemes, zonal development plans, area development plans and road development plans. The Municipal Corporations, Municipalities and Nagar Panchayats exercise the powers of development, control and enforcement delegated to them under the Andhra Pradesh Urban Areas (Development) Act, 1975.

<sup>2</sup> Identification and Evaluation of Options for Implementation of the National Urban Sanitation Policy at the State level, World Bank, December 2012

# 2. VISION OF TELANGANA STATE SANITATION STRATEGY

All cities and towns in Telangana to become totally clean, sanitized, healthy, livable, ensuring and sustaining good public health and environmental outcomes for all citizens, with a special focus on hygienic and affordable sanitation for the urban poor and women.

## **3. GOAL OF TELANGANA STATE SANITATION STRATEGY**

The overall goal<sup>3</sup> of Telangana SSS is to achieve an urban Telangana that is totally sanitized (safe), healthy, livable and climatically responsive with cities / towns that are managed by ULBs with citizen and stakeholder participation in particular women and poor.

The specific goals are:

#### A. Enhanced awareness and sustained behavioral change

- Generate enhanced awareness about sanitation and its linkages with publicenvironmental health and climate change recognizing different impacts on men and women amongst communities and institutions;
- ii) Promote mechanisms to bring about sanitary practices and hygiene behavioral changes

### **B.** Achieving Open Defecation Free Cities

Move towards a situation where all urban dwellers have access to and use safe and hygienic sanitation facilities and arrangements so that no one defecates in the open. In order to achieve this goal, the following activities shall be undertaken:

- Promote access to households with safe sanitation facilities (including proper disposal arrangements);
- Promoting community-planned and managed toilets in slums and underserved areas and wherever necessary, for groups of households who have constraints of space, tenure or economic constraints in gaining access to individual facilities;
- iii) Adequate availability and 100 percent upkeep and management of Public Sanitation facilities, for migrant and floating population and community toilets for urban poor

<sup>3</sup> Goal evolved out of ULB consultation meeting convened by C&DMA and held on 5<sup>th</sup> July 2013 at Hyderabad

in all urban areas, to rid urban centres off open defecation and environmental hazards.

# C. Improved Institutional governance and enhanced human resource capacities for city-wide sanitation

Role clarity for guidance and advisory at state – level is required. There is also need for regulatory function on state level and implementation and operational function on urban local body level

- i) Re-Orienting Institutions and mainstreaming sanitation
  - Mainstream thinking, planning and implementing measures related to sanitation in all sectors and departmental domains as a cross-cutting issue, especially all urban management endeavors;
  - Strengthening state, city and local institutions (public, private and community) to accord priority to sanitation provision, including planning, implementation and O&M management;
  - Extending access to proper sanitation facilities for poor communities and other un-served settlements;
  - Strengthening the regulatory framework on sanitation service delivery
- ii) Strengthening ULBs to provide or cause to provide, financially sustainable sanitation services delivery.
- iii) Building and strengthening of human resources in the field of sanitation
- iv) Proper Operation & Maintenance of all Sanitary Installations
- v) Promoting proper usage, regular upkeep and maintenance of household, community and public sanitation facilities, sewage / septage treatment facilities and management of solid waste.

# D. Ensuring 100 percent hygienically safe and sanitary Treatment and Disposal

100 percent of human excreta and liquid wastes from all sanitation facilities including toilets must be safely treated and disposed. In order to achieve this goal, the following activities shall be undertaken:

- i) Promoting / encouraging safe and properly constructed on-site sanitation arrangements wherever cost efficient and sustainable;
- In case of network-based sewerage systems, adequate connectivity of households and demonstrated financial viability for O&M would be required to ensure sustainability and proper functioning of the system;

- iii) Promoting proper disposal system and treatment of sludge from on-site installations (septic tanks, pit latrines etc.);
- iv) Ensuring that all the human wastes are collected safely, confined and disposed-off after treatment so as not to cause any hazard to public health or the environment;
- v) Promoting recycle and reuse of treated waste water for non-potable applications wherever possible.
- vi) Promotion of proper collection, segregation, transportation, treatment and disposal of solid waste

### E. Technological efficiency and appropriateness

- i) Guidelines on range of technology options that are energy efficient, ecologically and climatically suitable and financially sustainable
- **ii)** System capacities are built for a range of technological options and its management for comprehensive range of water and sanitation services.

### 4. CURRENT STATUS AND PRIORITIES IN URBAN WATER AND SANITATION SERVICES

### 4.1 Status of Urbanization

Out of total 13.72 million urban population in the state of Telangana reported by the Census 2011, 12.41 million is covered by the 73 urban local bodies. These centers are designated with statutory status thus eligible for provisions of 74th CAA. About 1.3 million people are residing across 79 census towns that are morphologically and functionally of urban character but covered by policies and programmes of rural areas.

The trend and nature of urbanization in the state of Telangana leads to the following conclusions;

- a) The urban growth is rapid as compared to other states and this will continue to pose a pressure on the sanitation infrastructure in the urban centers.
- **b)** Need for policy formulation for the rapidly urbanizing areas in the state.
- c) Urbanization has to be viewed differently in case of the state of Telangana given its diverse topography including Eastern Ghats and plateau areas that has varying environmental carrying capacity for the sanitation infrastructure and services.

Based on the foregoing rationale, it is imperative that the state's urban policy be developed.

#### 4.2 Access to toilets

As per Census 2011, about 9.56 percent of households in the urban areas do not have access to a sanitary toilet in their residential premises in the urban Telangana. Out of this about 8.38 percent defecate in open while remaining 0.88 percent use public sanitation facilities. About 28,221 of toilet less households use shared toilet facilities while 1,81,675 go out to defecate in open, thereby adding to the fecal load in the environment. Some of the studies undertaken suggest that 15.7<sup>4</sup> percent of the urban households do not have a toilet in their homes due to poor economic capacities.

The latent demand for toilets exists in most urban areas. However, efforts are needed to convert this to effective demand in order to accelerate the process of making the cities open defecation free. This will result in safe and clean toilet infrastructure that keeps pace with urban growth. Evidence suggests that this is possible with motivated state and local leadership.

**District level Analysis:** The districts reporting highest percentage of open defecation in urban areas are Adilabad (25.87), Mahabubnagar (19.37) and Nalgonda (18.22) and also higher than the state's average of 8.68 percent. If we add districts of Warangal and Karimnagar to the list then these five districts will constitute 62.49 percent of total households defecating in open across the urban areas in the state of Telangana.

**ULB level Analysis:** Out of total of 73 Urban Local Bodies (ULBs) including the Greater Hyderabad Municipal Corporation in the state of Telangana, Municipalities of different grades contributes to about 63.58 percent of the households that defecate in open in the state. The figure for Municipal Corporations is 33.50 percent, Nagar Panchyats is 2.65 percent.

Amongst *Municipalities*, the towns of Manugur (36.66) in Khammam district, Armur (29.63) and Bhainsa (27.70), Kagaznagar (26.23) and Nirmal (26.02) in Adilabad district have the highest prevalence of open defecation.

In *Nagar Panchyats,* the towns with highest percentage of households defecating in open are Narayanpet (44.45) and Sathupalle (11.63).

Amongst *Municipal Corporations* of the state, Warangal (13.49), Karimnagar (6.81) and Nizamabad (6.69) have highest percentage of households defecating in open.

The following are the implementation measures needed for improving the access to toilets

<sup>4</sup> District Level Household and Facility Survey 2007-08, Andhra Pradesh

- Universal coverage of latrines targeting both toilet less households and the households with insanitary latrines in a time bound manner while recognizing different needs of men and women and poverty levels, by adopting participatory approach.
- Mapping the access and quality of existing individual, community, public sanitation facilities and hot spots. Understanding the nature of demand is imperative for first steps to implementation, which would address the gaps in service delivery.
- Promote sanitation technologies that are user friendly especially to the needs of special groups, such as the elderly, the physically challenged, pregnant women and girls. The focus will be to scale up gender friendly latrines. Latrine options and locations should bear in mind women's safety and the need for privacy.
- Adequate number of community and public toilets considering issues of women safety, dignity and well-being with appropriate design standards for provision of facilities.
- Undertake feasibility studies and social assessment with appropriate monitoring mechanism with stringent penalties for non-compliance. For sustainability and to meet the service delivery standards and appropriate contractual guidelines and monitoring mechanisms should be put in place.
- Adopt suitably designed business/operator mechanisms with greater accountability on the public sanitation service providers in markets, bus stands and railway stations.
- Provide incentives to the private sector and community groups to participate in provision and O&M of Public and Community Toilets and instituting these in policies and contractual instruments through appropriate management contracts.

### 4.3 Urban Sanitation Hygiene and IEC

The evidence from else-where suggests that the mission mode campaign style of programming may help the state to reach an Open Defecation Free (ODF) status soon enough, but to maintain the status would be rather difficult. There is always a risk of slippage from the ODF status unless the campaign is run in the demand responsive approach fully backed by an Inter Personal Hygiene Communication (IPHC) (especially on hand washing and menstrual hygiene), mass media and IEC activities so as to achieve a stable and sustained status through behavioral change.

Unlike a full-fledged flagship rural sanitation programme of *Nirmal Bharat Abhiyan* [erstwhile Total Sanitation Campaign (TSC)] for the villages in the state, there is no such counterpart programme for the urban areas until the launch of *Swachh Bharat Mission by the Ministry of Urban Development, Govt of India in 2014.* 

The value to invest in such a programme structure for urban sanitation is evident from the rapid acceleration of toilet coverage and open defecation free movement that has improved the access in the rural areas.

Earlier the national programme on Integrated Low Cost Sanitation (ILCS) largely responded to the conversion of dry latrine to a sanitary latrine to ensure eradication of manual scavenging. The scheme was funded in the following manner; Central subsidy (75 percent), State subsidy (15 percent) and Beneficiary share (10 percent). While the construction of the ILCS units was one important aspect, putting them to use/disuse was the major concern. Due to lack or insufficient quantity of water availability and low levels of awareness many individual toilets in poor households remain unutilized.

The following are the implementation measures for improving the awareness on sanitation and hygiene

- Increase mass awareness levels and focus on behavioral change to make the identified audiences more conscious with stakeholders about issues related to the importance of sanitation and hygiene.
- Influence decision makers and opinion leaders to advocate for improved sanitation and hygiene standards, thus creating an overall positive environment
- Ensure continuous engagement with stakeholders of every section of the elected representatives, communities, civil society groups such as local NGOs, children clubs, teachers, women groups, users groups and other indigenous/ cultural groups for sustainable sanitation services and promoting behavioral change
- Ensure that households especially women have knowledge of the linkages between sanitation, hygiene and health leading to increased public demand for quality sanitation services and adoption of hygiene practices.
- Orientation, competitions, rallies, recognition ceremonies are some of the events that can increase publicity and the media (TV, newspapers, radio) shall need to be involved in such events, wherever possible.

### 4.4 Septage Management

About 90.43 percent of the households in the urban areas of Telangana state have a toilet within their residential premises. Almost 30.32 percent of them are connected to septic tanks, 3.45 percent to pit latrines while households having connection to the centralized sewer system are about 51.54 percent.

In divergence to the large proportion of on-site installations, limited attention has been accorded to proper construction, maintenance management and safe disposal of septage from septic tanks and pit latrines. The installations are subject to local practices and considerable variations are observed.

In ULBs septic tanks are often dramatically undersized, faulty designs and poorly constructed. Septic tanks are frequently installed underneath homes, driveways or sidewalks due to small lot sizes, thus making access for inspecting or desludging difficult. In many instances, what referred to as "septic tanks" are not septic tanks at all, but are instead just seepage pits or cesspools. These unlined, earthen receptacles not only do a very poor job at treating sewage, but they frequently serve as direct conduits to aquifers, resulting in fecal contamination that can impact precious drinking water supplies.

Limited capacities and resources with ULBs and absence of regulations on maintenance and cleaning of septic tanks and pits are a major challenge. In many instances, septage is dumped in drains and open areas posing considerable health and environmental risks. Sanitary workers also work in hazardous conditions having to manually clean on-site pits and tanks without adequate protective gear and equipment. The new legislation prohibits hazardous manual cleaning of septic tanks and sewers, so as to ensure that health and safety of such workers is not compromised.

There is a general lack of awareness on septic tanks and how these should be planned, designed, installed, operated and maintained, especially among the system owners and ULBs which results in pollution of the ground and surface water bodies thus impacting the public health.

**District level analysis:** The districts with highest percentage of households using septic tanks are Khammam (70.48), Nalgonda (61.51), Nizamabad (53.86), Mahabubnagar (52.69) and Karimnagar (50.94). Together, these five districts account for 48.61 percent of the total households using septic tanks in the state of Telangana.

**ULB level analysis:** About 50 percent of households both in Municipal Corporation and Municipalities use septic tanks for the purpose of fecal sludge management at the household level. Nagar Panchayats have only 1 percent of the households having septic tanks and remaining using pit latrines.

The *Municipalities* of Khammam (75.69), Suryapet (71.69) and Wanaparthy (71.10) have more than 70 percent of households using septic tanks as the means of fecal sludge disposal. Whereas, the *Municipal Corporation of* Karimnagar (74.36) is the only ULB with more than 70 percent of households using septic tanks.

The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013<sup>5</sup> has expanded the definition of workers engaged in such sanitation works by including the practice of septic tank emptying and manual handling of fecal sludge. The revised Manual Scavenging Act<sup>6</sup> will require states to gear up the Municipal bodies in discharging their responsibilities effectively.

The following are the implementation measures for effective septage and fecal sludge management

- State Government to roll out strategies as referred in Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 Act.
- Preparation of appropriate guidelines at the state level considering the dimensions of social, legislative, technical, institutional- governance and financial issues for septage and fecal sludge management.
- Preparation of State level action plan on Integrated Septage Management and Fecal Sludge Management that takes in to account the entire value chain of the septage management

### 4.5 Water Supply

The Public Health and Municipal Engineering Department (PHED) in Telangana is the nodal agency for planning, design and implementation of water supply and sanitation facilities in the urban local bodies (ULBs). The source of water supply in the state of erstwhile Andhra Pradesh was primarily from surface water and groundwater. Surface water sources are primarily reservoirs / dams, rivers, canals and groundwater through bore wells. The present installed capacity of all the 72 ULBs (except GHMC) put together is 745 MLD (million litres per day) as against the demand of 1100 MLD.

The Central Public Health Environmental Engineering Organisation (CPHEEO), Government of India, has prescribed the following norms for estimating the water demands for planning & design purposes based on the type of town/city. The water supply norms are 40 lpcd (litres per capita per day) in case of public stand posts, 70 lpcd in case of towns without underground drainage and 135 lpcd in case of towns with underground sewerage system and 150 lpcd in case of metropolitan cities having population more than one million.

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<sup>5</sup> Gazette published dated 19 September 2013

<sup>&</sup>quot;As per 2013 Act, manual scavenger means "a person engaged or employed, at the commencement of this Act or at any time thereafter, by an individual or a local authority or an agency or a contractor, for manually cleaning, carrying, disposing of, or otherwise handling in any manner, human excreta in an insanitary latrine or in an open drain or pit into which the human excreta from the insanitary latrines is disposed of, or on a railway track or in such other spaces or premises, as the Central Government or a State Government may notify, before the excreta fully decomposes in such manner as may be prescribed, and the expression "manual scavenging" shall be construed accordingly.

The present water supplies in majority of urban local bodies in Telangana are far below the prescribed norms. Adequacy and equitable distribution are the major problems. In 34 ULBs, the supply is between 70 to 135 lpcd while 34 ULBS are supplying less than 70 lpcd.

The state of Telangana has 79.98 percent of households in urban areas with access to tap water from a treated source for drinking purpose. Out of these 68.61 percent of the urban households have tap water (treated source) located within their premises while another 11.37 percent have the location of drinking water tap outside of premises.

**District level analysis:** Apart from Hyderabad, all 9 districts with urban population report less than 90 percent coverage of households with a tap drinking water from a treated source. The district with highest percentage of household coverage is Hyderabad (96.02). The district of Adilabad has the lowest coverage with 61.16 percent.

**ULB level analysis:** Amongst *Nagar Panchayats*, Narayanpet (79.59) and Sathupalle (74.20) towns have highest coverage of households with drinking tap water from a treated source in the state of Telangana.

Across *Municipalities,* Gadwal (95.26), Wanaparthy (88.44), Nalgonda (86.70), Kothagudem (86.51) and Miryalaguda (86.12) are the ULBs with highest coverage of households with tap drinking water from treated source.

Urban water supply is beset with other problems like inadequacy, high levels of nonrevenue water, low level of metering, intermittent supply, inadequate quality, low sustainability etc. The poor, particularly those living in slums and squatter settlements, are generally deprived of adequate potable water.

The following are the implementation measures for improving the water supply service levels:

- Augment and develop additional water sources to meet the current and future water demand.
- Improve supply efficiency, service delivery and ensure adequate water supply to each households
- Bulk water supply and retail water supply to commercial, industrial establishments and private institutions installed with volumetric metering and gradually all household connections should be metered.

- Conjunctive use of water resources through promotion of water saving measures recharge pits for recharging the ground water and roof top rainwater harvesting in the urban areas
- Reduction in Non-Revenue Water due water losses due to leakages and unauthorized connections
- Use of improved technology and energy efficient motor pumps for supplying of water. Improve technical capacities and focused attention on strengthening staff skills and capacities in this context.

### 4.6 Waste Water Treatment and Disposal

Wastewater disposal and treatment was a major problem in the cities in Telangana. Most of towns and cities in the state do not have underground sewerage systems and sewage treatment services for disposal of the waste water. 57.07 percent of urban households in state are connected to underground drainage system which largely includes GHMC and in most of the ULBs in the state the wastewater also known as black-water from toilets is been disposed through septic tanks and soak pits, while the grey water from kitchen and bathrooms is directly discharged into the sullage drains without any treatment flow into water bodies in and around ULBs.

The total waste water generated is 1784 MLD including GHMC but only about 681 MLD of waste water is been treated. Thus, there is a large gap between generation and treatment of wastewater in the state. Even the treatment capacity existing is also not effectively utilized due to operation and maintenance problem. Operation and Maintenance of existing plants and sewage pumping stations is not satisfactory. Discharge of untreated sewage is single most important cause for pollution of surface and ground water since there is a large gap between generation and treatment of domestic wastewater.

Rapid urbanization is also has a detrimental effect on water resources – both in terms of quality (pollution of rivers and groundwater) and quantity (as conflicting/competing demands for water increase). Thus even greater attention is now needed to collect and treat wastewater and to effectively manage finite water resources, both surface and ground water.

Municipal wastewater collection, treatment, and disposal are still not a priority by the municipality/ state government as compared to water supply. In the absence of sewer lines, untreated wastewater is flowing into storm water drains and poses health hazards to the citizens inhabiting the areas near the drain.

Moreover, recycle and reuse of wastewater has not received much attention by the policy/ decision makers perhaps because of the lack of viable models with necessary research and technology support, strong policies and legal framework at both the national and state levels and lack of sufficient professional manpower in the urban local bodies.

The future of urban water supply for potable uses will depend majorly on efficient wastewater treatment systems. The following are the implementation measures suggested for wastewater management

- Thrust on wastewater treatment facilities, use of appropriate and sustainable technologies especially for collection, treatment and recycling and reuse of wastewater generated in ULBs.
- Maximum utilization of existing networks through mandatory connections in all the ULBs with existing UGD systems to ensure proper flow.
- Adoption of last mile connectivity of the underground drainage connections by subsidizing the urban poor in ULBs with network based system.
- Adoption of decentralized waste water systems (DEWATS), treatment options locally in offices complexes, apartment complexes, layouts and institutions, for grey and black waste water thereby reducing the organic loading on the STP and treated wastewater is further recycled / reused on site for irrigation, toilet flushes and cooling towers. Several cities in India have already incorporated recycling and reuse of wastewater in their building bye-laws (Delhi, Bengaluru, Rajkot, Chennai, and Chandigarh).
- Promote recycling and reuse of grey water using simple techniques with suitable financial incentives/disincentives for industries, residential layouts, apartment complexes commercial establishments and similar other agencies to adopt/practice wastewater reclamation, recycling and reuse.
- Mandatory enforcement for industries, multi storied commercial establishments and apartment complexes and to meet at least to 20 percent of their known non-potable water requirements from reclaimed water. Similarly, for horticulture, watering public lawns/gardens, flushing of sewers, firefighting etc., reclaimed water should be utilized.

### 4.7 Storm Water Drainage

Urban conditions exacerbate drainage problems; runoff is increased by impermeable urban surfaces and, due to inadequate development control mechanisms and there inefficient enforcement, settlements are constructed with little consideration for storm water drainage. Storm water drains are necessary component for drainage of urban runoff, non-structural approaches are important complementary measures, focusing on actions to prevent and mitigate problems related to flooding, as well as those related to pollution and deterioration in environmental health conditions

Numerous factors account for inadequate and poor drainage system, viz. blockage of natural drainage systems by dumping of solid waste from construction activities, indiscriminate land filling, and lack of comprehensive maintenance of natural watercourses due to land access problems leading to overflowing of sullage and storm water. As a result, during the rains the drains are unable to take the flow and as a result spill over, flooding the roads. In many ULBs stormwater drains have become a free access to dispose wastewater both grey and black water leading to conversion of nearby habitation into sullage drains. The sullage is directly dumped into canals and water bodies in urban watershed without any treatment. The poor residents in the slums are most vulnerable and disproportionately affected as they often reside in informal settlements located on marginal land – low-lying areas. In poorly drained areas with inadequate sanitation, urban runoff increase the risks to health, as flooded septic tanks and leach pits, and blocked drains become breeding grounds for vectors.

The following are the implementation measures for storm water management

- Adopt a strategic approach towards the development and implementation of storm water management plans.
- Development of drainage plans and implementation of the priority interventions for improved drainage and network.

### 4.8 Municipal Solid Waste

The total municipal solid waste generated in the 73 ULBs of Telangana is 6628 tonnes per day including the GHMC, of which 4000 tonnes per day is collected, and 3040 tonnes per day treated and while the remaining is disposed. Apart from the GHMC, many of the ULBs do not have the adequate treatment and disposal facilities. Urban Local Bodies spend around Rs 1000 – 1500 per tonne per day as payments from the municipal general funds. Out of this amount, 60 – 70 percent is spent on collection, 20 - 30 percent on transportation and less than 10 percent on processing and disposal activities<sup>7</sup>.

Government of erstwhile state had taken concrete steps in improving the situation of municipal solid waste management in the urban local bodies. The state government has

<sup>7 &</sup>quot;Handbook on Sanitation and SWM in Andhra Pradesh – Key Learnings from German Cities", Oct 2012, C&DMA, GoAP

spent the twelfth finance commission grant of Rs. 374 crores exclusively for solid waste management which has to a large extent helped in improving the collection of waste, transportation machinery and in acquiring land for processing and disposal facilities. The thirteenth finance commissions grant of Rs. 1919 crore has been allocated for solid waste management projects on public private partnership basis in ULBs.

Nevertheless, the MA&UD department had grouped 122 ULBs excluding the GHMC into 19 clusters G.O. Rt. No. 1464 M.A, Dt: 24.10.2005 for developing WTE power projects on PPP mode. The State has sanctioned and approved 10 clusters covering 66 ULBs. Government have approved 5 WTE projects after the recommendations of the Technical Committee and State Level Official Committee covering 32 ULBs in 5 clusters however, the WTE plants are yet to being there operations in full-fledged manner.

Despite such initiatives there are major issues identified in the solid waste management sector<sup>8</sup>. Some are listed below:

- Lack of resources, systems and capacity for development and disposal of solid waste at ULB level.
- Lack of support in financial, technical, and project development at state level to ULBs in identifying right technologies, processes, structuring projects and implementation.
- Lack of awareness about the importance of effective solid waste management practices.
- Lack of capacities within the urban local bodies on processing technologies and scientific landfills.
- Lack of substantial capital and O&M expenses without matching revenues.
- Land acquisition is a major issue in SWM projects and a major cause of delay.
- Lack of technical expertise and institutional arrangements.
- Poor structuring of Waste to Energy projects on PPP mode

The following are some of the implementation measures for effective solid waste management

- Waste collected from door-to-door should be source segregated and collected separately in wet and dry waste from all sources.
- Waste to be handled mechanically across the MSW value chain with minimum human contact. Modernize fleet management services with covered transportation system with GPS tracking systems in place.
- Establishment of Material recovery facilities in all ULBs.

<sup>8 &</sup>quot;Integrated Municipal Solid Waste Management Strategy 2014", MA&UD, GoAP

- All ULBs to set up centralized or decentralized processing facilities for treatment of the municipal solid waste generated in the ULB.
- ULBs to formulate strategy to organize and strengthen CBOs like RWAs/ SHGs/SLF/ TLF to ensure community participation and ownership of Solid Waste Management on a sustainable mode.
- Setting up of regional / district level landfill facilities by clustering ULBs for scientific landfilling.
- The ULBs to undertake adequate measures to reduce, reuse and recycle (e.g. plastic waste management) in order to minimize the costs for waste management for each ULB as well as the land requirements for the regional facilities.
- Options of composting for organic waste; co-processing of dry fractions of municipal waste in cement/ power sectors and/ waste incineration for energy production to be explored.
- Financial sustainability for the ULBs for the solid waste management sector through user charges and other financial instruments.
- Adequate measures such as strengthening the legal provisions for penalizing the violators.

### 4.9 School Sanitation

Provision of sanitation in schools is one of the primary needs for the holistic development of a child during school education years. The sanitation facilities should be age-set and gender appropriate through development of such relevant norms. Children's participation in management of sanitation facilities with respect to design, siting, upkeep and maintenance requires constant encouragement. With this focus and objective several initiatives at the state and national level on school sanitation are under implementation.<sup>9</sup>

The percentage of drinking water and toilet facilities in the schools in the state showed good coverage. However, there are certain issues that have implications on the overall management of school sanitation from the perspective of facility access and use in the state of Telangana:

- Functional status of the toilets
- Operation and maintenance issues
- Hygiene curriculum
- Role clarity for urban schools and their administrations amongst municipal bodies, district board, education department, management of private schools

<sup>9</sup> GIZ as part of its support to the National School Sanitation Initiative (NSSI) in the state of Andhra Pradesh has taken up 10 schools for establishing hygienically safe operated toilets specifically focusing on girl student in the city of Tirupati.

- Design of school drinking water, sanitation, waste water and solid waste disposal require linkages with the city infrastructure such as sewage connection, door to door collection system etc.
- Development school as a model place of sanitation for learning and demonstration

The following are the implementation measures improving the sanitation in schools across the urban areas in the state

- A "State Action Plan on School Sanitation for Urban Areas" should be jointly developed by Education and Municipal Administration and Urban Development department mainstreaming the hygiene and sanitation programs.
- Focus on child, gender and differently able friendly water and sanitation facilities in all the schools including the provisions for menstrual hygiene.
- Focus to be given on training/ orientation/promotional activities for schools with advocacy and awareness on sanitation and hygiene.
- Promotion of school based sanitation and hygiene education program, due consideration will be given on the School Improvement Program School level curriculum may also be amended as appropriate to intensify the sanitation and hygiene promotional activities

# 5. INSTITUTIONAL ARRANGEMENTS FOR URBAN SANITATION

With established trends of growing proportion of population in the urban areas, it is imperative that the institutional structures for the delivery of urban sanitation services are streamlined. All matters related to the urban WSS sector are within the functional domain of state governments which lay down policies for the allocation of water for different purposes and establish institutional systems for their development and management.

The role of state level agencies should be that of a facilitator, regulator and handholding ULBs. All this could be achieved through technical assistance, capacity building and finances from state's own budgetary resources or from Gol, External Support Agencies (ESA) and innovative mechanisms. Until, ULBs develop their robust capacities, it is suggested that the technical support could be extended for planning, designing, implementation and O&M of urban sanitation services.

Active involvement of local NGOs, community organizations, self-help groups of women should be ensured through awareness creation and community mobilization for increased ownership of the overall sanitation agenda at the local level.

In line with the letter and the spirit of the  $74^{th}$  CAA, there will be following four tier institutional structures;

### 5.1 State Level

- a) State Mission on Urban Sanitation: comprising of a i) Governing Body headed by the Chief Secretary with Principal Secretary as the Member Convener and relevant Secretaries of the line department. The governing body, chaired by Chief Secretary, providing overall guidance and policy direction to urban sanitation initiatives in the state, and overseeing the planning and implementation of the state strategy
- b) State level Nodal Agency on Urban Sanitation (SNUS): led by C&DMA and supported by a dedicated Urban Sanitation Cell in the department to be headed by an Executive Director. The C&DMA to function as the Nodal Agency to support operationalization of different components in sanitation. This would be done under the guidance of the SLSC and the sate sanitation cell led by the Executive Director to provide technical, managerial and professional support in planning and implementation of state sanitation strategy

### 5.2 District Level

d) **District Sanitation Mission:** headed by District Collector/Magistrate to be restructured by bringing in the urban sector in the purview and expanding the membership to the mission and district level Executive Committee.

### 5.3 Urban Local Body Level

e) City Sanitation Task Force: a multi stakeholder comprising of representatives from shops and establishments, sanitary workers unions, educational institutions, women groups, contractors, NGO's, line departments, political and eminent personalities to be constituted. This is to be led by the Mayor along with the Executive head of the ULB. The City Sanitation task force shall be duly supported by a City Sanitation Cell (CSC) that is staffed with relevant human resources. The cell shall be responsible for preparation and implementation of the city sanitation plan.

The City Sanitation Task Force will be mainly responsible:

- Launching the City 100percent Sanitation Campaign
- Generating awareness amongst the city's citizens and stakeholders
- Approving materials and progress reports provided by the implementing agency, other public agencies, as well as NGOs and private parties contracted by the Implementing Agency, for different aspects of implementation
- Approving the City Sanitation Plan for the city prepared after consultations with citizens
- Undertaking field visits from time to time to supervise progress
- Issue briefings to the press/media and state government about the progress
- Providing overall guidance to the Implementation Agency
- f) Area Sabha Sanitation Committee: to be led by the concerned Ward Councilor and membership of a representative from the Urban Health, Nutrition and Sanitation Committee (set up under Urban Health Mission), women SHGs and Ward / Zone level Officials responsible for provisioning of water and sanitation services.

The above mentioned institutional structure will strengthen the urban development department for the purpose of functioning as a Sanitation Nodal Agency with a dedicated Sanitation Cell. The Cell shall function as part of the MA&UD organization set up with the responsibility to draft terms of reference of various tiers proposed here including their roles and responsibilities.

The overall responsibility for service provision remains with the ULBs even where parastatals and other state level agencies are involved in service delivery. Departments and parastatals currently discharging these responsibilities will be accountable to the respective ULBs (including for example, receiving payments on certification by the ULBs).

As ULBs have the final responsibility for ensuring service delivery and to achieve sanitary and environmental outcomes, it is important that effective monitoring mechanisms will have to be put in place.

# 6. PLANNING FOR URBAN SANITATION

The urban planning deficit in the water and sanitation services in the country is widely recognized leading to urban infrastructure in the cities that are ad hoc, disjointed and lacks a long term perspective focus. The High Power Expert Committee report (March 2011) was the first such attempt at the national level to provide a long terms perspective to urban infrastructure in the country. It is desired that on similar pattern a state level high power committee was constituted to prepare a state level business / investment perspective plan for urban water and sanitation.

This State Sanitation Strategy (SSS) for the state of Telangana will be operationalized through an implementation framework led by SNUS (State Level Nodal Agency on Urban Sanitation) that would develop a state level implementation plan, specifying clear responsibilities, resources, time frame, finances, operational components and guideline-sets.

In the recent years, NUSP 2008, CPHEEO Draft Manual 2012 and Draft Municipal Solid Waste (Management and Handling) Rules, 2013 and National River Conservation Directorate (NRCD) have all institutionalized the role of City Sanitation Plan (CSP) as the primary instrument of water and sanitation sector planning by the Municipal Authorities that covers all the relevant sub sectors (solid waste management, sanitation, water supply, storm-water management, wastewater management) in an integrated approach. The following are the implementation measures for integrated sanitation planning

- Prepare City Sanitation Plans for each ULB with short, medium and long-term actions for sanitation that will address current back-log and future demand. The CSP would be the primary documents for providing road-map to the achievement of sanitation goals in accordance with the Sanitation Strategy.
- Each ULB shall form a City Sanitation Task Force for preparation, implementation and monitoring of the City Sanitation Plan.
- SNUS will consolidate the CSP requirements into a state level CSP implementation plan specifying the time frame, finances, operational components and guideline-sets for these components, to enable the state to earmark resources.
- Undertake feasibility studies for projects and ensure Detailed Project Reports are available for sanitation projects that are based on community involvement where ever possible and address issues such as demographics, geotechnical, social, capacities, financial, institutional, technology choice, governance (local) mechanisms, operation and maintenance.

- Priority to slums in addressing the issue of open defecation through individual and community toilets under the budget component for the urban poor
- Special emphasis to be given to urban centres that attract floating population seasonally (tourism purposes) or sporadically (religious/cultural occasions) for planning.
- Primacy should be given to zero low cost interventions of the CSPs so as to improve the sanitary environment of the urban areas. Also, appropriate environment-friendly solutions would need to be incorporated for these locations.
- The planning, investment and promotion of sanitation facilities must address the priorities of women and children specially the girls. Gender shall be given utmost importance in all sanitation programs. Aspects related to public sanitation from point of women safety, dignity and well-being is critically important.

# 7. DATA AND INFORMATION MANAGEMENT

Assessing the financial status of water and sanitation is hampered by the weak information base in the sector. Consequently, relatively little information is available to scrutinize the performance of urban water supply and sanitation in the ULBs

Benchmarking of service levels based on 28 indicators as identified by MoUD, Gol. It involves identifying industry good practices, measuring and comparing self-performance, identifying key areas for improvement and upgrading to match the best. The self-reported status on performance on water and sanitation services has proved to be a useful tool to incentivize the Municipal Authorities in self-awareness, setting baselines for service and information improvement plans. The potential of SLBs for use in the planning and public discourse has not been fully tapped.

The state shall build urban information and database baselines in line with the guidelines recommended under the National Urban Information System (MoUD 2006). Such an information system shall make best use of the GIS and MIS platforms that are rapid to access, retrievable for use in planning for urban infrastructure, creates compatible data formats and transforms MIS information (e.g for property mapping, census etc.) into spatial geo-referenced GIS files. This information could further analysis and interpretation for all the important sectors (e.g water, waste water, solid waste, storm water)

The following are the implementation measures for strengthening the data and information

- SNUS will initiate a study of the water and sanitation sector normative environment available through repository design, specifications and standards as issued time to time by CPHEEO, BIS, CPCB, MoEF, MoUD and others. And upon analytical assessment prepare technical guidelines that are relevant, appropriate and suitable for the topography of urban areas of the state.
- Preparation of state level inventory of sanitation facilities, using modern information collection techniques (including water and sanitation mapping approaches, webbased data-bases, GPS, and mobile to web technologies) to strengthen sector data collection and monitoring and allow real-time updating of data bases.
- DWSMs (District Water and Sanitation Mission) will monitor the regular dissemination of the SLB performance. SLBs and its data management particularly on the improvement of the reliability scoring have not been given adequate attention.
- SNUS in cooperation with Regional Cell will help the Municipal Authorities in preparing management plans for strengthening city level data base to improve the reliability scores for SLBs.

### 8. FINANCING OF URBAN SANITATION INVESTMENTS

The current urban financing framework relies significantly on the idea of resource transfers from the state government to local government institutions by way of grants to fill the gap between the expenditure and the revenues demand. The poor financial status of urban local bodies and inefficient spending of existing funds makes it less likely for municipalities to attract resources from capital markets, which could be a significant source of extra funding

High dependence on state government for revenue income and the quantum of income which is uncertain poses financial management challenges to the local governments. The timing of the income and uncertainty of the quantum will not facilitate ULBs and/or service providers to significant multi-year budgeting for meeting expenditure obligations. All financial planning will tend to be very short-term and constrained by limited visibility in the revenue income.

The local government revenue mix will need to have greater share of own-share income. It is observed that the powers of taxation of the local governments as defined by the respective acts have several constraints and limitations. These have also been major contributors in restraining the revenue bases of the ULBs. There is a need for a greater degree of freedom to allow the ULBs to raise taxes and duties and existing statutes may be amended to provide such powers. The following are the measures to be undertaken to improve financing of urban sanitation interventions

- The ULBs to earmark a certain percentage of their own resources to be spent on creating and maintaining vital sanitation infrastructures in the city on sustainable basis; with objectively verifiable results thereof. This will be adjudged as an initiative towards ODF status
- ULBs to enhance their own revenue income needs by optimizing income from existing assigned sources and adding new sources of income added such as a consumption-linked income source like a local body tax.
- A dedicated State Urban Sanitation Fund (SUSF) may be set up under the budget of MA&UD with outlay from the state budget, supplemented by any provisions from MoUD, Gol. The proposed SUSF will be utilized for urban sanitation, and will focus on assisting the ULBs in the management planning, communication, monitoring, etc. aspects of urban sanitation. Guidelines for access and use of this fund would be framed and the SNUS will advise the department on the approval and sanction of ULB proposals. It will be mandatory for ULBs to commit towards preparation of CSP for accessing this fund and subsequent fund flows will be conditional with the implementation of the CSP.
- A portfolio of funding sources funds available through schemes like SBM, AMRUT, SMART cities, Heritage Cities etc.; funds committed through externally aided projects, capital markets, PPP options with private or corporate sector – and private sector and other sanitation sector participants to be explored by the SNUS and clear guidelines issued to the ULB on the nature and modalities for accessing these.
- The MA&UD to earmark a certain percentage of its annual budget over three succeeding financial years (from FY 2016-17 to FY 2018-19); towards soft components-behavior change communication, technical support and administrative cost, which is essential to set the strategy in place and implement action plans.
- Adequate and predictable sources of financing through setting of tariffs, intergovernmental fiscal transfers and devising targeted subsidies to the poorest of the poor households etc. State government to ensure co-ordination between other government agencies and institutions, private and community institutions.
- Providing access of households to a variety of micro-credit options through self-help groups (SHGs), microfinance institutions (MFIs), credit cooperative societies or the new housing finance companies being set up with a focus on small loans.
- Greater focus is needed for mobilising local resources, as well as evolving innovative ways such as results-based funding and grants, and creating avenues for funding by CSR and social investors through new instruments.

# 9. HUMAN DEVELOPMENT OUTCOMES FOR SANITATION INVESTMENTS

Investment in safe water supply and access to improved sanitation has multiple economic returns. For every 1 US Dollar (USD) invested, there is a projected USD 3 to 34 benefit gained. The benefits range from time savings and productivity gains, to budget savings on health-care. Per capita gains for the developing world population could reach at least USD 15 per capita per year.<sup>10</sup>

It is well established that aspects of women safety, dignity and well-being are intrinsically linked to improved availability, access and use of sanitation and drinking water facilities.

## 9.1 Environment

To define the environmental concerns, it is imperative to establish the benchmarks and the targets that maintain sensitive ecosystems such as water bodies especially in the coastal. The parameter needs to fall in line with national available standards and regulations for water quality monitoring. The water body classification of CPCB and water quality norms for discharge of effluents (EPR, Pollution Control Law Series, PCLS/4/2000-2001) are an important pre-requisite. However, it is essential that describing the ecological status of water bodies the national regulations should be completed by "Trophic Level Index"<sup>10</sup>. The road-map to comply with the overall goal of restoring the ecological balance involves steps, such as, and in the same order: (I) arresting of external / anthropogenic pollution, (II) removal of already accumulated pollution and (III) preservation through monitoring of water quality. All the three steps require technical intervention until the ecological balance is accomplished. It is achieved if the water bodies fulfill the water quality criteria according to the Best-Designated-Use standard Class-D and the same status can be maintained throughout the year. The surface water monitoring undertaken by erstwhile AP State Pollution Control Board (AP SPCB) suggests that the pollution load is quite high in the water bodies primarily contributed by the direct disposal of the municipal sewerage.

## 9.2 Gender and Inclusive Sanitation

The literacy gender gap, with male literacy rates of 75.56 percent *vis a vis* female literacy rate of 59.74 percent in the state of erstwhile Andhra Pradesh can be better bridged with adequate focus on school sanitation especially for girl students. In the

<sup>10</sup> Beyá J, Hamilton D, Burger D. (2005) Analysis of catchment hydrology and nutrient loads for Lakes Rotorua and Rotoiti. Report 83, University of Waikato, New Zealand

schools of urban areas, the enrollment rates for boys and girls up to elementary school are 51 and 48.99 respectively. The evidence suggests that while the enrollment remains high but the drop out happens sharply with increase in age-set for the girls due to lack of adequate hygienically operated sanitation facilities. The school drop-out rates for girls is presently reported as 15 percent.<sup>11</sup>

Among households poor families are generally the last to improve sanitation, not because of differences in hygiene perception but because of reduced access to relevant information and to means of, or preconditions for, installation - such as land, or, for poor female heads of households, labour. Within households men and women have different interests in sanitation, different reasons for installing a disposal system and different roles in the installation process. In managing sanitation programmes, it is also important that women and men of the different social and economic groups are equitably represented and involved.

## **10. SECTOR REGULATION – MONITORING AND INCENTIVES**

State to enforce achievement of the defined service benchmarks which can be used as a tool for monitoring performance and linking funding with progress towards achieving service level benchmarks.

ULBs to participate in the 'third party assessments' that will help in bringing required modifications in the approach to service delivery for holistic outcomes.

Introduce Citizens' Report Cards, Citizens' Monitoring Committees, Self-Assessment System, Inter-City Competitions, concurrent evaluation as monitoring tool for improving urban governance of water and sanitation services.

## **11. CAPACITY BUILDING**

Currently, Dr. Marri Channa Reddy Human Resource Development Institute, Hyderabad (MCRHRD) is the apex training institute at the state level offering training on a wide range of subjects for various government programmes and departments. The other training institutes include the RCUES, ASCI and NIUM. However, it does not have a dedicated center for the urban sector as in the other ATIs such as YASHADA, ATI Mysore etc.

<sup>11</sup> Andhra Pradesh State Elementary Education Statistics, 2011-12

To support the implementation of SSS in Telangana it is necessary to have a dedicated Centre with adequate domain expertise to address the training needs of the state departments as well as 69 ULBs across the state. The provisions for training and capacity building with appropriate state training policies for the sanitation sector and Annual Action Plans for MA&UD, PHED and ULBs should be defined. Further training should be linked to development of competencies of individuals and to career progression as well as suitable amendments to the service rules etc. The ULBs may be strengthened through adequate staffing ensuring all relevant posts in the various departments are filled.

In the context of this strategy, it is recognized that there is a need to improve the efficiency of the state departments and the ULBs across the state through a systematic approach, of which training is an important component. It is understood that capacity development is a long-term process that requires systematic and continuous effort at state as well as ULB level, both from the demand and supply perspective of service delivery.

As ULBs have final responsibility for ensuring all service delivery achieves sanitary and environmental outcomes, it is therefore prudent to establish innate capacities within the ULBs. Since urban local bodies are required to provide better urban services to the citizens and also to ensure planned development of the urban areas, there is a need to have a dedicated Municipal Cadre to meet the requirement of functional domain of the urban local bodies. Significant increase in urban population as well as financial transactions of ULB and implementation of urban reforms along with centrally sponsored/externally aided projects are added responsibilities of ULBs. These challenges necessitate separate municipal cadres in administrative, accounts, engineering and other technical services.

Lack of skilled staff to manage these functions adversely impacts the service delivery. Recognizing limitations in finding quality technical human resources, a long term view to the challenge is through gearing the technical institutes of higher education as well as vocational training to tailor courses of global standards

The implementation measures for strengthening the capacity building to include

 Creation of Municipal Cadre will help in improving the performance of the urban local bodies and attract qualified people to the services. A specialized cadre will facilitate career opportunities for the persons working in the municipalities and sharing of experiences across cities. A scoping study on establishment of the municipal cadre will be required to build strong foundation for the Municipalities.

- A dedicated training cell with a training manager may be created within SNUS and the municipal corporations within the state. Dedicated funds for training and capacity building activities may be provided. As recommended by National Training Policy (NTP) 2012, MA&UD and the ULBs will set aside at least 2.5 percent of their salary budget for training.
- Establish sufficient capacities in Higher Education that enables state and city departments to execute sanitation obligations in the field of Environmental Management, Environmental Engineering, Water Resource Management and other related fields.
- Establish sufficient capacities in Vocational Training that enables state and city departments to execute sanitation obligations in the field of household plumbing, network plumbing and any other related skills for sanitation operation.
- Develop a sector capacity development framework; clarify the scope and nature of capacity needs through a comprehensive sector capacity needs assessment.
- Refresher courses and long term courses such as the post graduate diploma in sanitation, operator training programmes
- Professional skills strengthening through short targeted courses and regular refresher courses for the staff in sanitation.
- Review of training curriculum against the needs of the water supply and sanitation sector on conducting a Training Needs Assessment
- Capacity building programs will also need to target artisans (builders, pump mechanics, well sinkers), planners, community mobilizers, hygiene promoters, and community leaders. Guidance on good business practices will be needed for local entrepreneurs, NGO and private sector institutions involved in component supply chains.
- Periodic sensitizing workshops/ seminars will be organized for the policy makers, planners, politicians and other decision makers at the central and regional levels. The workshop contents will be more or less similar to the district level-sensitizing workshops.

## **12. CLIMATE CHANGE AND WASH SERVICES**

Climate change is recognized as one of the defining challenges for the 21st century. More frequent and intense extreme weather events experienced through droughts, floods and less predictable rainfall and water flows, to name a few. These will place established water and sanitation services – and future gains in access and service quality – at real risk. Water supply and sanitation are affected by climate change and have an impact on climate change. The carbon footprint of water supply and sanitation such as energy used in pumping can be significant. The effects of climate impacts on sanitation may be direct – where water is an essential part of the technology process (e.g. sewerage) – or indirect – where the capacity of the environment to absorb or reduce the adverse effects of wastes is changed.

Climate change, manifested in floods, pose a potential threat to the sanitation and hygiene sector. Extreme events such as floods can damage septic tanks, waste processing facilities and sewerage systems, resulting in contamination of groundwater and increasing public health risks. Similarly, in drying environments, conventional sewerage systems, with relatively high water requirements are difficult to operate and maintain. Increasing urbanization results in issues of discharge of untreated sewage and solid waste will increase, thereby compounding the problem arising from climate change.

While there is evidence to generalize which technologies is more and less likely to be climate change resilient in a given region, it lack tools to assess the climate change resilience of a technology in a given specific location. Developing such tools is a priority. Also, building knowledge to review programming and operations to assess and increase the achievement of resilience of climate change to be pursued.

In line with National Action Plan on Climate Change (NAPCC), Government of Telangana will make a commitment to address the "challenge of urbanization". Even though Climate change poses a threat to sanitation but not yet been integrated into regional and local level planning.

The implementation measures for integrating climate change issues include

- Sanitation needs to be factored into climate change responses at regional and local governmental levels as part of disaster management response.
- The state to act on climate change through facilitating the integration of climate change adaptation into regional and local planning.
- The state to develop action plan for a rapid response to climate change disasters like flooding, to reduce the impact on people, infrastructure and sanitation in coordination with the disaster management team at the district level.
- Appropriate mitigation/adaptation measures to cope with the climate change impacts in the sanitation and hygiene sector as well.
- The department of Municipal Administration and Urban Development will work on establishing a Working Group on Sustainable Urban Habitat (WGSUH) to prepare

State Plan of Action on Urban Climate Change in line with the National Mission on Sustainable Urban Habitat.

## **13. IMPLEMENTATION FRAMEWORK OF SSS**

Based on forgoing analytical discussions anchored in best available evidence and covering all above mentioned issues, the implementation of the Telangana State Sanitation Strategy will be undertaken through an SSS Implementation Plan. It should be set up within one year around the following cornerstones with an understanding that while each one of them are interdependent and yet stand alone on its own strength, merits, timelines and budgets:

- 13.1 (a) State advisory on establishing effective, efficient and user responsive water and sanitation utilities for municipal authorities is issued through a government notification.
- 13.1 (b) The institutional structures for delivery of urban sanitation in the state are established across tiers from state to area *sabha* in next one year equipped with staff, budget and clear roles and responsibilities.
- **13.2** State Urban Policy is developed that tackles the perspective planning for urbanization and urban growth in the state including the aspect of urban definition in the context of the state of Telangana within one year of Telangana SSS adoption.
- **13.3** Universal access to sanitary toilet in all urban areas of Telangana is achieved within a year of SSS adoption and sustained for three years so as to be declared as having achieved status of Telangana state as open defecation free by 2019.
- **13.4** All urban centers to be equipped with City Sanitation Plans (CSPs) in next one year with technical assistance from the institutional structures and financial assistance from the MA&UD.
- **13.5** Sanitation rating and ranking to be rolled out for all urban centers on pattern similar to national sanitation rating and undertaken annually.
- **13.6** Annual Award Schemes to be launched by the state government on the pattern of *Nirmal Bharat Abhiyan* (NBA) for urban areas.

- 13.7 State level Communication Plan for promotion of hygiene and sanitation in urban areas is prepared based on formative research and advanced research methods. A wider dissemination of the Telangana SSS itself is also required amongst various stakeholders including the elected representatives of the Urban Local Bodies (ULBs) so as to ensure that the sector directions are coherent and directional for the state as a whole. The use of appropriate communication methods such as mass media, public contact programmes and advocacy campaigns will be used for popularizing the intent and purpose of the Telangana SSS.
- 13.8 State Government will harness the resources offered by MoUD in establishing State Institute of Urban Development (SIUD) that has a capacity development plan at the state level based on the training / capacity need assessment of the ULBs and stakeholders including the elected representatives.
- 13.9 A state level action plan for promotion of universalizing gender sensitive urban sanitation in underserved areas, public spaces and institutions such as market, schools, anganwadi centers and health posts (under National Urban Health Mission) is prepared in next two years.
- 13.10 Citizens' Report Cards, Citizens' Monitoring Committees, Self-Assessment System, Sanitation ratings, Inter-City Competitions, concurrent evaluation and third party assessments as monitoring tool for improving urban governance of water and sanitation services are introduced.
- **13.11** An Integral Urban Information System (IUIS) to be established in the MA&UD with data management protocol that is developed based on field level data and information need assessment with Municipal Authorities. The cutting edge technology is applied in making use of MIS and GIS for database archiving and retrieval functions.
- **13.12** Guidelines are to be developed on comprehensive range of services in the sanitation sector matching the needs of the physical characteristics of urban centers in next three years. The guidelines will focus on establishing normative framework that exceeds national standards to promote outcomes on public health, environment and quality of human life.
- **13.13** State Plan of Action for Septage Management and Integrated Wastewater Management to be developed in next two years that considers the multi-dimensional facet of the problems to guide the municipal authorities in preparation of waste water plans and its implementation.

- **13.14** State Strategy on Municipal Solid Waste, as endorsed is to be disseminated in the state in next three months and used to formulate city action plans by the municipal authority as well as regional concepts that aim to meet the relevant service level bench mark for all urban local bodies in next five years.
- **13.15** Develop State level Master Plan on Universalizing 24 X 7 Drinking Water in the state including the financial sustainability. To ensure the urban population have 100 percent access to piped water supply, mostly through individual connections.
- **13.16** Scope for improved management of storm water drainage is fully understood with the perspectives of recovery, recycling and reusing through a scientific study in select cities.
- **13.17** On the pattern of HPEC Report at the national level, State Government shall a develop sector business / investment plan that uses relevant normative regimes for urbanization for cost estimates.
- **13.18** A State Urban Sanitation Fund (SUSF) to establish under the MA&UD Department for budget year 2016-17 onwards.
- 13.19 A Working Group is established by Government of Telangana on Sustainable Urban Habitat focusing on climate change challenges of urban areas including the aspects related to water and sanitation for preparation of a State Action Plan on Cities and Climate Change in Telangana.
- **13.20** Enforcement of regulations and bye-laws are currently not effective due to inadequate capacity of sector staff The enforcement mechanisms assessed to be potentially effective shall be implemented in the short, medium and long-term and updated regularly
- **13.21** A regular review of the Telangana SSS will be required for the purpose of monitoring the progress towards the Goal and Vision that translates in concrete outcomes in the lives of people living in urban areas. Also undertake mid-course correction in light of better insight from the field level i.e. the citizens and Municipal Authorities.

## **14. TIMELINE AND ACTION PLAN**

The above recommendations needs to be prioritized by the state based on resources available in consultation with the SLSC. These recommendations can be broadly classified into short term measures which can be implemented in less than a year, medium term measures we can be implemented in 1-3 years and long term measures which shall take over 5 years for completion depending on the requirement. Various departments should to be involved in the implementation of the SSS. An indicative implementation plan is attached as Annexure to the document.

S.No	Broad measures recommended in Telangana-SSS	Responsibility	Implementation Timeline	
		Short (1year)	Medium (1-3 years) Loi	Long (> 3 years)
1	Establishment of Institutional Structures for delivery of Urban sanitation	C& DMA		
0	State advisory on Water and Sanitation utilities	C&DMA, EnCPHED		
m	State Urban Policy	MA&UD		
4	Universal Acess to Toilets to all	ULB		
Ð	Preration of City Sanitation Plans (CSPs)	ULB		
9	State Level Sanitation Rating and Annual Awards schemes	C&DMA		
7	State level Communication Plan for promotion of hygiene and sanitation in urban areas IEC and advocacy activities	C&DMA, MEPMA		
∞	Establishing State Institute of Urban Development (SIUD)	MA&UD		
6	State level action plan for promotion of universalizing gender sensitive urban sanitation	C&DMA, MEPMA		
10	Citizens' Report Cards, Citizens' Monitoring Committees, Self-Assessment System, Sani- C&DMA, MEPMA tation ratings, concurrent evaluation and third party assessments as monitoring tool	&DMA, MEPMA		
11	Integral Urban Information System (IUIS) with data management based on field level data and information	C&DMA		
12	Operational guidelines and Standards for Sanitation services	C&DMA		
13	State Plan of Action for Septage and Fecal Sludge Management	C&DMA, EnCPH, DTCP		
14	Implementation of State Strategy on Municipal Solid Waste as per MSWM Rules 2016	C&DMA		
15	Preparation of master plan for universalising State level water supply	C&DMA, ENCPH		
16	Storm water drainage management plan (recover/recycling/reuse)	ENCPH		
17	Preparation of Sector Business/ Investment Plans	C&DMA, ENCPH, TUFIDC		
18	State Sanitation Fund	C&DMA		
19	Working group for Sustainable Urban Habitat (Climate change in cities) and preparation of State Action Plan on cities and climate change	C&DMA, EPTRI		
20	Capacity building programs on enforcement of legislations and bye laws	C&DMA		

### GOVERNMENT OF TELANGANA <u>A B S T R A C T</u>

MA & UD Department – Public Services – MA &UD Department – National Urban Sanitation Policy - State Sanitation Strategy for the State of Telangana – Approval – Orders – Issued.

### MUNICIAPAL ADMINISTRATION & URBAN DEVELOPMENT (F1) DEPARTMENT

G.O.RT.No. 380

Dated: 28/09/2015 Read the following:-

1. G.O. Rt. No. 8, MA &UD (F1) Dept., dated: 8.1.2015,

\* \* \*

2. Lr. Roc. No. 4124/2010/H2, dated: 20.8.2015.

### ORDER:

In the G.O. 1<sup>st</sup> read above, orders were issued constituting a State Level Sanitation Committee (SLSC) under the Chairmanship of Principal Secretary to Government, MA & UD Department as mandated under the Swatch Bharath Mission (SBM) for preparation and implementation of the State Sanitation Strategy and to prepare concept paper as per the draft guidelines issued by the Ministry of Urban Development, Government of India. Further, the Commissioner and Director of Municipal Administration, Telangana, Hyderabad is also permitted to constitute "Working Group" with concerned Departments of the SLSC and "Sanitation Cell" in the O/o the Commissioner and Director of Municipal Administration, Telangana, Hyderabad.

 $\underline{2}$ . In the reference  $2^{nd}$  read above, the Commissioner & Director of Municipal Administration, State of Telangana, Hyderabad have informed that the German International Cooperation (GIZ) has finalized the draft Telangana State Sanitation Strategy in consultation with the State Level Sanitation Committee and requested the Government to issue necessary orders to adopt the same for onward submission to the Government of India as mandated under Swatch Bharat Mission and National Urban Sanitation Policy.

<u>3</u>. Government after careful examination hereby approve the "Telangana State Sanitation Strategy"

<u>4</u>. The Commissioner & Director of Municipal Administration will submit the Telangana State Sanitation Strategy to the Government of India and take next steps to prepare an Action Plan and Investment Plans, duly keeping in backdrop the SLIPs prepared for AMRUT Cities.

P.T.O.

**<u>5</u>**. The Commissioner & Director of Municipal Administration, State of Telangana, Hyderabad will take necessary further action accordingly in the matter.

## (BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

## M.G. GOPAL, PRINCIPAL SECRETARY TO GOVERNMENT.

То

The Commissioner and Director of Municipal Administration, Telangana State, Hyderabad.

The Commissioner & Special Officer, Greater Hyderabad Municipal Corporation, Hyderabad

### Copy to:

P.S. to Principal Secretary to C.M.

P.S. to Chief Secretary to Government.

P.S. to Principal Secretary to Government, MA & UD Department. SF/SC

## /FORWARDED BY ORDER//

SECTION OFFICER.

## **Technical Partner**

GIZ - Support to National Urban Sanitation Policy Project - II

## **About GIZ**

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is owned by the German Government and works in the field of international cooperation for sustainable development. GIZ is also engaged in international education work around the globe and currently operates in more than 130 countries worldwide.

Germany has been cooperating with India by providing expertise through the organisations now forming GIZ, for more than 50 years. To address India's priority of sustainable and inclusive growth, GIZ's has been implementing efforts along with the partners in India on the Sustainable Urban and Industrial Development; among others.

GIZ sanitation programme SNUSP – II, as part of Indo-German Co-operation, supports Indian government in implementation of its sanitation improvement schemes and missions such as National Urban Sanitation Policy (NUSP), Swachh Bharat Mission (Clean India Mission) and Atal Mission for Rejuvenation and Urban Transformation (AMRUT). The objective of the project, is to support Indian government in making all Indian cities and towns totally sanitized, healthy and livable and ensuring sustainable good of public health and environmental with special focus on the urban poor and women.

Contact Dirk Walther Project Director - SNUSP II dirk.walther@giz.de

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