

AN OVERVIEW OF URBAN SANITATION IN ANDHRA PRADESH

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Abstract:

Sanitation, hygiene, and cleanliness are the hallmarks of a civilized society. Sanitation is critical for health and sustainable socio-economic development. Needless to emphasize, the quality of human life, inter-alia rests upon better accessibility to sanitation. The agenda set for providing clean water and better sanitation facilities apply more so for developing countries. For the marginalized communities, lack of clean water and adequate sanitation acts as an impediment for the Human Development growth in the communities across the world. The quality of human life, directly or indirectly, depends upon accessibility to better sanitation. In developing countries, the poor people have great burden of diseases due to inadequate water supply, sanitation and hygiene. The United Nations Millennium Declaration, in particular its eighth Millennium Development Goal, reflects the global importance of water sanitation and hygiene for development, poverty reduction and health. Governments are unable to provide basic needs to the citizens, because of the rapid increase in the urban population. Compared to rural households, urban households have 135% improved sanitation facilities and 30% have improved water source in developing countries. In Asia, the water supply and sanitation coverage is 81% and 48%, respectively. Focuses on sanitation. It seeks to present the latest evidence on the provision of adequate sanitation, to analyse why more progress has not been made, and to suggest strategies to improve the impact of sanitation, highlighting the role of the health sector. It also seeks to show that sanitation work to improve health, once considered the exclusive domain of engineers, now requires the involvement of social scientists, behavior change experts, health professionals, and, vitally, individual people. Throughout this paper, we define sanitation as the safe disposal of human excreta. The phrase “safe disposal” implies not only that people must excrete hygienically but also that their excreta must be contained or treated to avoid adversely affecting their health or that of other people.

Key words: Disposal, Facilities, Strategies, Urban population

I. Introduction

Adequate sanitation, together with good hygiene and safe water, are fundamental to good health and to social and economic Development. That is why, in 2008, the Prime Minister of India quoted Mahatma Gandhi who said in 1923, “sanitation is more important than independence”. Improvements in one or more of these three components of good health can substantially reduce the rates of morbidity and the severity of various diseases and improve the quality of life of huge numbers of people, particularly children, in developing countries. Although linked, and often mutually supporting, these three components have different public health characteristics.

II. Situation in Andhra Pradesh

With the enactment of the Andhra Pradesh Reorganization Act 2014, the state of A.P. was bifurcated into Andhra Pradesh and Telangana. This is one of the 29 states of India, situated on the southeastern coast of the country. The state is the eighth largest state in India covering an area of 160,205 km². The state of Andhra Pradesh comprises 13 districts namely Anantapur, Chittoor, Guntur, East Godavari, Krishna, Kurnool, Nellore, Prakasam, Srikakulam, Vizianagaram, Vishakhapatnam, West Godavari and Y.S.R. Andhra Pradesh is now the tenth largest state in India with 49.38 million as total population. The state has planned to develop “Amaravati” as its capital city. As per the Census 2011 the urban population of Andhra Pradesh was 14.63 million representing about 29.58 percent of total population.

Most of the net increase in the urban population is contributed by five districts in the state, viz: Vishakhapatnam (47.51 percent), Krishna (41.01 percent), Y.S.R (34.1 percent), Guntur (33.89 percent) and Chittoor (29.47 percent). Andhra Pradesh ranks tenth of all Indian States in the Human Development Index scores with a score of 0.416. The urban population is spread across 110 Urban Local Bodies consisting of 14 Corporations, 71 Municipalities of all grades and 25 Nagar Panchayats. The net increase of urban population between 2001 and 2011 is approximately 5.4 percent. Vijayawada and Vishakhapatnam are major cities in the state. The urban areas contribute close to 65 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 in 2010-11. If the trends on the economic growth are to be maintained or increased, it is imperative to focus attention on the urban areas for their robust sanitation infrastructure.

Statutory status of urbanization

Out of total of 14.63 million urban population in the state of Andhra Pradesh reported by Census 2011, 12.47 million is covered by the urban centers designated with statutory status thus eligible

for provisions of 74th CAA. While, about 2 million people are residing across 104 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 Andhra Pradesh leads to the following conclusion;

- 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) Policy formulation for the rapidly urbanizing areas in the state.
- c) Urbanization has to be viewed differently in case of the state of Andhra Pradesh given its diverse topography including coastal areas, eastern ghats and plateau area that has varying environmental carrying capacity of the sanitation infrastructure and services. Based on the foregoing rationale, it is imperative that the state's urban policy developed.

III. The role of the Health sector in improving Sanitation

Sanitation promotion is one of the most important roles the health sector can have in environmental health planning, because behaviours must be changed to increase householders' demand for and sustained use of sanitation, especially in rural areas where the pressure for change is lower. Thus, two of the most promising large-scale sanitation programmes in Africa are centred around demand creation and are both led and delivered by the Ministry of Health and its associated structures. Sanitation can be promoted by the health sector through a stand-alone programme such as sanitation marketing or CLTS or included in disease-specific control programmes such as the 'SAFE' approach to trachoma [63]. Alternatively, it can be incorporated into a wider integrated community health package such as Ethiopia's HEP (Health Extension Programme), which was developed in 2004 to prevent the five most prevalent diseases in the country [61,62]; safe sanitation and hygiene became a major focus within HEP because of the recognition that these diseases are all linked with poor environmental health. Promotion alone by the health sector may be insufficient, however, to ensure sanitation adoption and maintenance. A "carrot and stick" approach may be needed in which sanitation coverage is increased through a combination of community-based promotion and enforcement of national or local legislation that every house must have a toilet [64,65]. In many countries, Environmental Health Officers are responsible for ensuring the sanitary condition and hygienic emptying of toilets, and have the power to sanction dissenting households with fines and court action [65]. This enforcement role of the health sector is particularly important in urban areas where high-density living increases the risks of faecal contamination of the environment and where one person's lack of sanitation can affect the health of many other people. The health sector also has an important role to play in advocacy and leadership. Politicians and the general public listen to doctors. That puts an onus on the medical profession to speak out on all important health issues, including sanitation.

Historically, this has not happened. Thus, in 2008, The Lancet wrote, “the shamefully weak presence of the health sector in advocating for improved access to water and sanitation is incomprehensible and completely short-sighted”. Given the huge potential health-cost savings achieved through improved sanitation, the health sector should be advocating for stronger institutional leadership, stronger national planning, and the establishment of clear responsibilities and budget lines for sanitation. Unfortunately, although the international health community puts large human and financial resources into many low- to medium-cost health interventions such as immunization and bed net distribution, it has been slow to act on the evidence showing that sanitation promotion and hygiene promotion are among the most cost-effective public health interventions available to developing countries. Finally, the well-honed epidemiology and surveillance skills of health professionals must also now be applied to sanitation to establish clear links between national health information systems and sanitation planning and financing, which has historically been separate from health in most countries.

IV. Need for state Sanitation strategy for urban areas in Andhra Pradesh

Improved sanitation is one of the critical determinants of the quality of human life that largely impact on outcomes for public health, environment and dignity. The positive outcomes of the sanitation interventions contribute to the economic growth propelled by livable cities. Investments made in the sanitation sector for urban areas will not only yield higher human development indicators but will also contribute towards the achievement of 10 percent growth rate for state’s economic growth as envisioned in the Andhra Pradesh’s XII Five Year Plan.

The National Urban Sanitation Policy (2008) stipulates all Urban Local Bodies (ULBs) to develop their City Sanitation Plans (CSP) as a city level instrument for sanitation sector planning. AP SSS is a major fillip to guide the Municipal Authorities to prepare and operationalize the CSPs. The Service Level Benchmarks (SLBs) institutionalized by the Ministry of Urban Development (MoUD) is also one of the 3 conditions laid down by the Fourteenth Central Finance Commission. As per Fourteenth Finance Commission, GoI have allocated an amount of nearly Rs.3635 Crore to Urban Local Bodies in the State of Andhra Pradesh. Out of which basic grant allocated to Urban Local Bodies is around Rs.2908 Crore (80 per cent) and performance grant is approximately Rs.727 crore (20 per cent) which are used to disburse grants to Urban Local Bodies (ULBs) based on their performance on 28 SLB indicators. The development of the AP SSS and its implementation will help to guide the ULBs to perform better on the SLB indicators.

In order to accelerate the efforts to achieve universal sanitation coverage and to put focus on sanitation, the Prime Minister of India launched the Swachh Bharat Mission (SBM) on 2nd October, 2014. SBM intends to make cities totally sanitized, healthy and livable by deriving

public health and environmental outcomes for all citizens with focus on hygiene and affordable sanitation for urban poor and women. The primary objective of the mission is the elimination of open defecation, achieving 100 per cent collection and scientific processing, disposal, re-use and recycling of municipal solid waste. Swachha Andhra Corporation was created in the year 2015 in line with the launch of Swachh Bharat mission at the national level.

ⁱⁱAn estimated 55% of all Indians, or close to 600 million people, still do not have access to any kind of toilet.⁵ among those who make up this shocking total, Indians who live in urban slums and rural environments are affected the most. The situation in urban areas is not as critical in terms of scale, but the sanitation problems in crowded environments are typically more serious and immediate. In these areas, the main challenge is to ensure safe environmental sanitation. Even in areas where households have toilets, the contents of bucket-latrines and pits, even of sewers, are often emptied without regard for environmental and health considerations. Sewerage systems, if they are even available, commonly suffer from poor maintenance, which leads to overflows of raw sewage. Today, with more than 20 Indian cities with populations of more than 1 million people, including Indian megacities, such as Kolkata, Mumbai, and New Delhi, antiquated sewerage systems simply cannot handle the increased load. In New Delhi alone, existing sewers originally built to service a population of only 3 million cannot manage the wastewater produced daily by the city's present inhabitants, now close to a massive 14 million.

Moreover, India is losing billions of dollars each year because of poor sanitation. Illnesses are costly to families, and to the economy as a whole in terms of productivity losses and expenditures on medicines, health care, and funerals.¹⁴ The economic toll is also apparent in terms of water treatment costs, losses in fisheries production and tourism, and welfare impacts, such as reduced school attendance, inconvenience, wasted time, and lack of privacy and security for women. On the other hand, ecologically sustainable sanitation can have significant economic benefits that accrue from recycling nutrients and using biogas as an energy source.

ⁱⁱⁱThere is an urgent need for development planners throughout the world to give sanitation priority attention. The number of families without access to adequate waste disposal in poor urban and rural areas continues to grow in many places, and the programming challenges for UNICEF and other partners are considerable. This handbook is the first in a series being prepared by the Programme Division to support national and local initiatives to fulfill children's rights to a safe environment.

^{iv}It is very clear that water-related disease is responsible for a significant proportion of the global burden of illness. It is equally clear that, while there is significant progress towards the Millennium Development Goal target for drinking water, sanitation is falling woefully short of the target. Provisioning of adequate sanitation has not managed to keep up with population growth and the aggregate number of unserved people has increased over the past 2 years.

Projections by the United Nations show that the world will miss the latter target by almost a billion people. The international community needs to wake up to this reality and its ramifications for human development. Not only is sanitation critical for dignity and health, it is the most basic form of source water protection – without controlling inputs of raw sewage into water bodies, drinking water treatment processes have to be unnecessarily more effective and water-based economic activities are compromised. This realisation is nothing new – indeed, it was recognised in England at the turn of the 19th century. In addition, sanitation is a critical component in striving for global equity and poverty reduction.

^v Millennium Development Goal (MDG) 7, Target 10, aims to “Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.” A majority of the 2.5 billion people without access to improved sanitation and hygiene facilities reside in developing countries, and progress towards MDG 7, Target 10 still lags far behind many other MDG targets. Current trends clearly show that most developing countries will miss Target 10, and some by more than others (WHO/UNICEF JMP, 2012). The World Health Organisation (WHO)/United Nations Children’s Fund (UNICEF) Joint Monitoring Programme (2012) reports that only 30% of the population in sub-Saharan Africa (SSA) use improved private sanitation and hygiene facilities, which is the lowest figure for any region of the world. This same report shows a mere 4% change in improved sanitation and hygiene Coverage from 1990 to 2010 in SSA, again, the least in the world. SSA accounts for 565 million of the 2.5 billion people without access to improved sanitation, and a whopping majority of these people live in rural areas and peri-urban slum settlements, where there is currently a great lack of access to proper sanitation and hygiene facilities (Szántó et al., 2012).

^{vi} United Nations Children’s Fund (UNICEF) on which WASH can plausibly have a strong impact: diarrhoea, nutrition, complementary food hygiene, female psychosocial stress, violence, maternal and newborn health, menstrual hygiene management, school attendance, oral vaccine performance, and neglected tropical diseases. Together, these areas cover the most significant sector outcomes associated with the distinct life course phases¹ that UNICEF seeks to help to address through its WASH activities. UNICEF’s strategic vision on WASH is to achieve universal and sustainable water and sanitation services and the promotion of hygiene, with a focus on reducing inequalities especially for the most vulnerable children, wherever they are; both in times of stability and crisis. The paper highlights a number of points where evidence-based consensus has been established, or is emerging in these areas, and these are summarized here:

A. Despite discussion in recent years around the best approach for estimating the proportion of the diarrhoeal disease burden attributable to poor WASH, there is strong consensus that that the majority of this disease burden is due to poor WASH;

B. WASH plausibly influences child growth in multiple ways. While the magnitude of effect for WASH interventions on undernutrition is less clear, there is a strong and growing consensus, in both the WASH and nutrition sectors, that WASH is an essential component of strategies to reduce undernutrition, and that efforts should be concentrated on the first 1000 days— from conception to a child’s second birthday;

C. Inadequate food hygiene practices can lead to high levels of microbial contamination of food, and interventions focusing on critical control points may reduce this contamination. While we need to better understand how to change behaviour sustainably through such interventions, and to assess their impacts on child health, there is growing consensus on the importance of integrating food hygiene components into both WASH and nutrition programmes.

^{vii}From a public health perspective, the lack of access to water and sanitation infrastructure is disconcerting. Several studies have documented the significant positive effect of water and sanitation on reducing child diarrhea (for an overview see Esrey et al., 1991; Fewtrell et al., 2005; and Waddington et al., 2009). Moreover, improved water and sanitation has been shown to lower the health risks related to schistosomiasis, trachoma, intestinal helminthes and other water related diseases. In addition, improved water and sanitation is likely to reduce the burden of disease related to other major health issues by reducing the average stress level for the immune system, and thus strengthening the immune response to new infections. This phenomenon has been labeled the Mills-Reincke Multiplier in honor of Hiram Mills and J.J. Reincke, who first noted the health benefits of water-borne disease improvements on other disease-specific mortality rates (Cutler and Miller, 2005; Ewbank and Preston, 1990). Given the large potential direct as well as indirect health benefits of water and sanitation infrastructure, it does not come as a surprise that improvements in water and sanitation have been nominated as one of the official targets of the Millennium Development Goals.

^{viii}The Total Sanitation Campaign (TSC) is the flagship sanitation programme of efforts by the Government of India to reach the Millennium Development Goals, but it has not yet met its expectations. This paper described the methodologies and analysis of data from 20 villages across two agro-climatic zones in Andhra Pradesh on the costs of sanitation. It concludes that capital costs takes a lion share of the funding, followed by operation and maintenance costs while planning and budgeting for indirect and direct support costs and capital maintenance costs are negligible or missing. The sanitation service ladder parameters reveal that open defecation is rampant and access to sanitation facilities is far from within reach for many households. Use of toilets is much higher in NGP1 (award winning villages) than in non-NGP villages but even in NGP villages is almost always below 100%. In non-NGP villages open defecation is rampant. An intensive approach is needed to prevent villages that achieve open defecation free status from slipping back and to address sanitation crisis in many non-NGP villages. Field observations, focus-group discussions and personal interviews reveal that factors such as space to construct toilets, availability of water, lack of awareness, cultural factors and traditional practices are the

major constraints to making the behavioural change away from open defecation. School sanitation remains a challenge as use and maintenance of school toilets is poor and keeping them clean can bring conflicts between parents and teachers. The solid and liquid disposal systems often receive a low priority and Panchayats (local government bodies) do not receive sufficient money to address these issues. The findings indicate the need for a lifecycle cost approach to planning and budgeting, additional funds for specific cost components, targeted efforts and continuous review to address sanitation progress with specific vision and targets rather than as add-on components to water supply programmes. This approach needs to be understood at all levels so that the focus can move from just providing toilets to maintenance and use of toilets and more comprehensive programmes of hygiene promotion.

V. Sanitation – Facts and Figures

As per the census 2011, 85.14 percent of urban Households (HHs) in Andhra Pradesh have access to toilets as compared to national figure of 81.4 percent.

1. Open Defecation in urban households of Andhra Pradesh is 14.75 Percent which is higher than the national average of 12.6 percent. There are 5,38,802 urban households practicing open defecation out of 36,53,618 total urban households in state. Srikakulam 32.79 percent has highest percentage of Urban households practicing open defecation followed by Vizianagaram with 30.44 percent and Prakasham 21.49 percent

2. 18.07 percent of Andhra Pradesh urban population is connected to Piped Sewerage networks (Under Ground Drainage). Only 8 cities have existing partial Underground Drainage facility. Sewerage facility in 3 towns (Guntur, Narasaraopet and Nellore) of Andhra Pradesh is under implementation

3. Lack of formal mechanism and improper septage management is leading to disposal of sewage and septage into water bodies in and around the cities without any treatment in more than 100 ULBs of the state.

4. Manual Scavenging: As per the Census 2011, approx. 0.02 percent of the urban households get night soil removed manually while 0.35 percent of HHs in A.P. accounts for that in the total. About 3,50,000 households have insanitary latrines in their premises

5. ULBs in Andhra Pradesh on average generates about 6440 MT of waste per day and in terms of the per capita of waste generation in the ULBs ranges from 0.3-0.4 kg/ per day. The quantity of waste is growing at 5 percent annually and the collection efficiency is above 90 percent. Majority of the ULBs lack proper treatment and scientific disposal.

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

VI. CONCLUSIONS

All cities and towns in Andhra Pradesh 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 with specific focus on the diverse topography of the state and its implications.

Ensuring 100 percent hygienically safe and sanitary treatment and disposal:

Sanitation facilities including toilets must be safely treated and disposed. In order to achieve this goal, the following activities shall be undertaken:

- a) Promoting / encouraging safe and properly constructed on-site sanitation arrangements wherever cost efficient and sustainable;
- b) 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;
- c) Promoting proper collection, conveyance, treatment and disposal system and treatment of sludge from on-site installations (septic tanks, pit latrines etc.);
- d) 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;
- e) Promoting recycle and reuse of treated waste water for non-potable applications wherever possible and also duly exploring options for PPP initiatives
- f) Promotion of proper collection, segregation, transportation, treatment and disposal of solid waste.
- g). Improved sanitation has significant impacts not only on health, but on social and economic development, particularly in developing countries.
- h). The health sector has a strong role to play in improving sanitation in developing countries through policy development and the implementation of sanitation programmes.
- i) Effective policy needs to be implemented through laws, regulations, guidelines, standards, and incentives. Governments need to also clearly assign rights and responsibilities for implementing and enforcing policies. Policies should also be fully comprehensible, as well as effectively disseminated and practiced: they must be clearly understood by all relevant stakeholders, and the implementation must be monitored.

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