



# POLICY BRIEF

## INDONESIA'S APPROACH TO URBAN SANITATION: LESSONS FOR INDIA



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Ministry of Urban Development  
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TOWARDS CITY WIDE SANITATION

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POLICY BRIEFS



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*The WHO/UNICEF Joint Monitoring Programme (JMP) data for 2011 reveals that Indonesia ranks second after India in terms of the number of people without access to toilets. In urban areas alone, 13.9% and 13.1% of the population defecate in open, in Indonesia and India respectively. Also, India and Indonesia are among the five most populous countries in the world and have some similar economic characteristics making it an interesting country to study from the Indian perspective. This Policy Note, after briefly describing the Indonesian approach to urban sanitation, shows how the two countries have adopted divergent policy approaches to address issues related to improving sanitation conditions, finally pointing out some lessons for India.*



## HIGHLIGHTS

### **INDONESIA HAS A STRONG POLICY FOCUS ON COMMUNITY-MANAGED DECENTRALIZED SUSTAINABLE SANITATION SYSTEMS FOR URBAN AREAS:**

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Indonesia uses community-based decentralized models as a central strategy in their national sanitation policies and has designed its investment programs and schemes along this approach. In Indian national urban sanitation investment programs revolve around centralized underground sewerage as the only delivery model.

### **CO-ORDINATED MULTI-MODEL STRATEGY TO ENCHASING SANITATION COVERAGE:**

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Indonesia has taken a co-ordinated multi-model approach to provide sanitation services which plan to cover the larger cities with underground sewerage and smaller cities with a mix of off-site and on-site systems. In India however, the dominant approach is to build sewerage in all the cities irrespective of their sizes and current situation.

### **NATIONAL STRATEGY ON BEHAVIOUR CHANGE AND CAPACITY BUILDING:**

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Indonesia has started investing in understanding behavioural issues around sanitation and hygiene at the community level and trying to change public attitudes along-side creating infrastructure, through a national STBM strategy, where IEC (information, education and communication) activities form a major part. In India, while the National Urban Sanitation Strategy, 2008, recognises the need for behaviour change and while capacity building forms a part of program expenditure, there is no clear-cut strategy for IEC present.

### **DEDICATED INTER-AGENCY WORKING GROUPS FOR WATER AND SANITATION:**

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To improve co-ordination, cooperation and collaboration between various departments and agencies working in the sector, Indonesia has created inter-agency working groups both at the national level and at the local government level. There are no such arrangements in India inhibiting multi-sectoral coordinated actions.

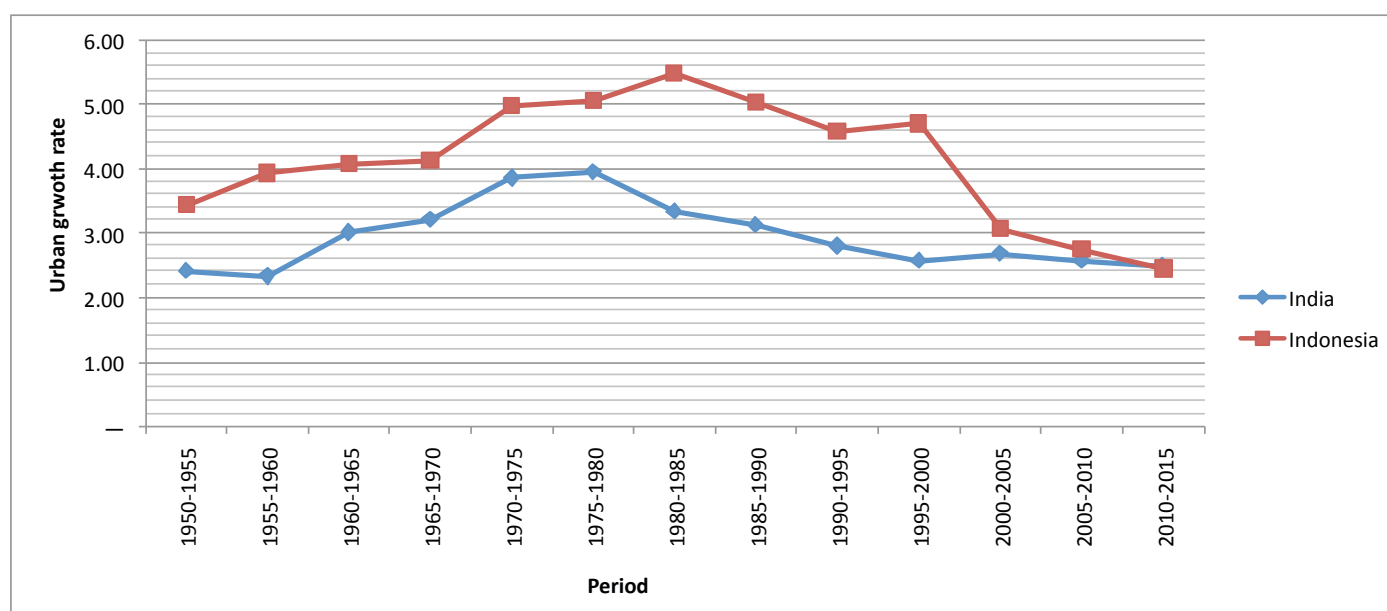
### **DECENTRALIZATION AND DEVOLUTION OF POWERS TO LOCAL GOVERNMENTS:**

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Indonesia in the late 1990s carried out massive decentralization exercise to transfer functions and powers for the water and sanitation services to the local governments increase accountability in basic service delivery. Decentralisation in urban services was also adopted in India through the 74rd constitutional amendment, in the early 1990's; however its implementation has been uneven across its states.

## BACKGROUND AND EVOLUTION OF THE SECTOR

Figure 1: Average annual rate of change of the urban population for Indonesia and India, 1950-2015



Source: United Nations Department of Economic and Social Affairs, 2011

Indonesia's population in 2010 stood at 238 million, making it the fourth most populous country in the world after China, India and the United States. About 50% of the population was urban in 2010 and this figure is expected to grow to close to 60% in 2025.

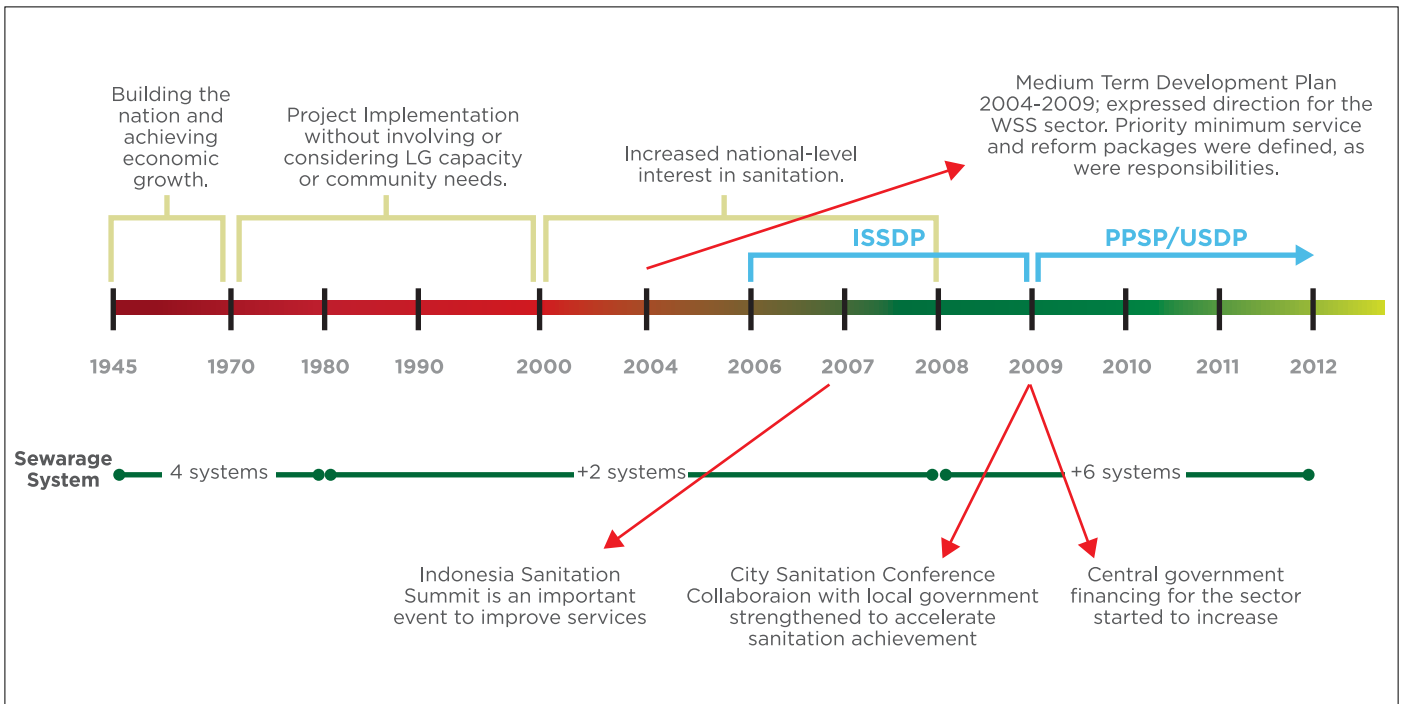
Indonesia and India have seen steady rise in urbanisation levels in the last few decades. The figure below shows the Average annual rate of change of the urban population of Indonesia and India from 1950 and projected till 2015. It is interesting to note that the two countries have almost equal urban growth rate during the 2000 -2015 period. Urban population is rising rapidly in both the countries and so is their need for effective, efficient urban services including sanitation. The history of policy and program development in the sanitation sector in Indonesia and India is depicted in the figures 2 and 3 below. In Indonesia, historically, public expenditure in sanitation had been negligible. After independence for the initial two decades, most of the focus was towards promoting industries and achieving economic growth. After the 1970s, there was some increase in public spending in health programs and sanitation infrastructure. By the 1980s, only four cities in Indonesia had partial coverage of centralized sewerage systems covering less than 2 percent of the total urban population, that were constructed during colonial period. This situation changed rapidly after

attainment of democracy in late 1990s which also led to decentralization of basic infrastructure and service provision responsibility. By the end of the 1990's there was increased national interest and higher public investment for the sanitation sector.

In India, a number of small programs such as the Environmental Improvement of Urban Slums, Integrated Development of Small and Medium Towns, Urban Basic Services program and the Integrated Low Cost Sanitation Scheme, etc helped provide for basic sanitation and public/community toilets in the past. The major underground sewerage projects in larger cities were funded by State governments and externally aided projects through loans. Regulation in the waste water management sector was initiated in the 1980's as part of the Environmental Act. Meanwhile rural sanitation got increasing focus at the National level through the Central Rural Sanitation Program, which was followed up with the Total Sanitation Campaign and more recently the Nirmal Bharat Abhiyan. Urban Sanitation got a policy impetus much later through the JNNURM in 2005 and the National Urban Sanitation Policy in 2008 which are briefly discussed in another section below.

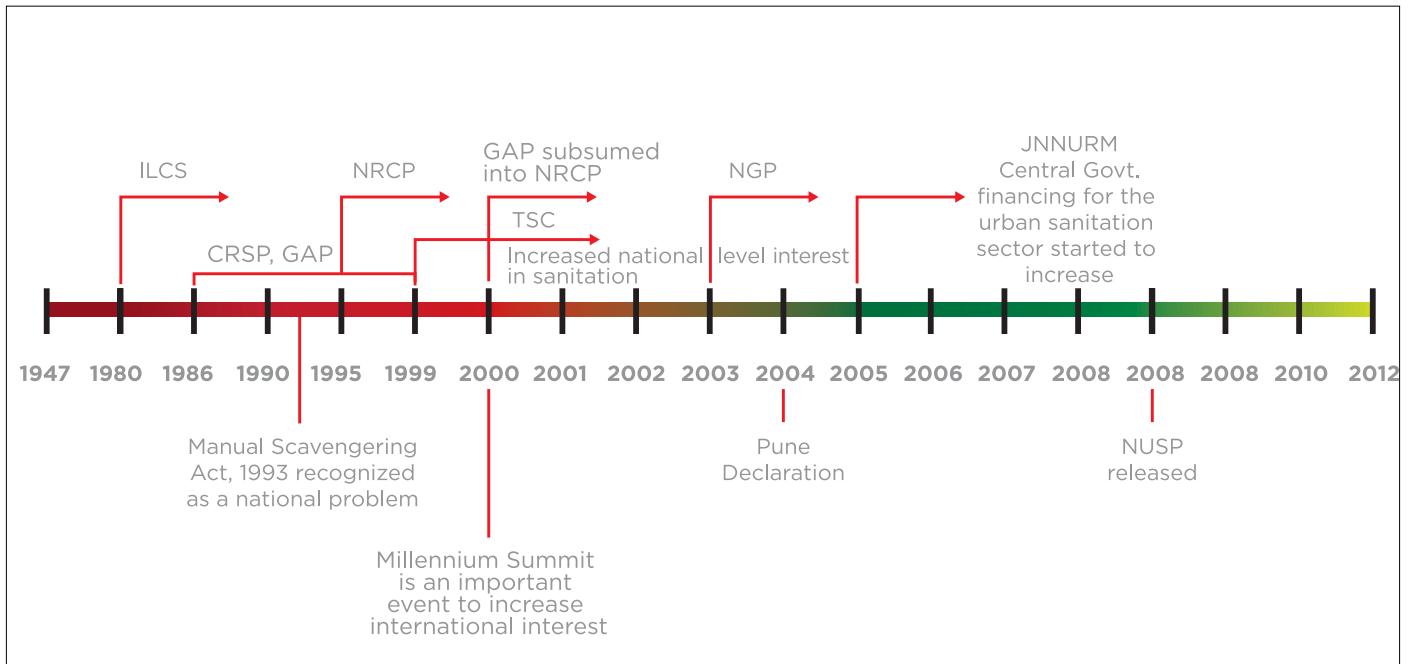


**Figure 2: History of Sanitation Policy and Program Development in Indonesia**



Source: World Bank 2013 (modified)

**Figure 3: History of Sanitation Policy and Program Development in India**



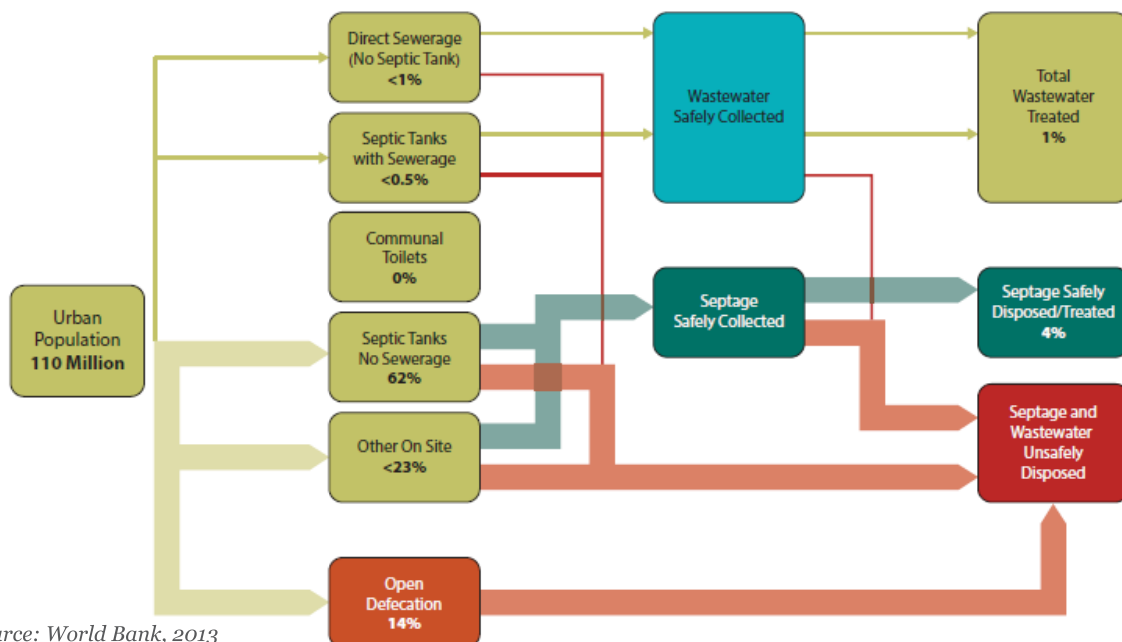
Source: CPR analysis

ILCS- Integrated Low-cost Sanitation, CRSP- Central Rural Sanitation Programme, GAP- Ganga Action Plan, NRCP- National River Conservation Programme, TSC- Total Sanitation Campaign, NGP- Nirmal Gram Puraskar, JNNURM- Jawahar Lal Nehru National Urban Renewal Mission, NUSP- National Urban Sanitation Policy

# CURRENT STATE OF COVERAGE IN THE URBAN SANITATION SECTOR

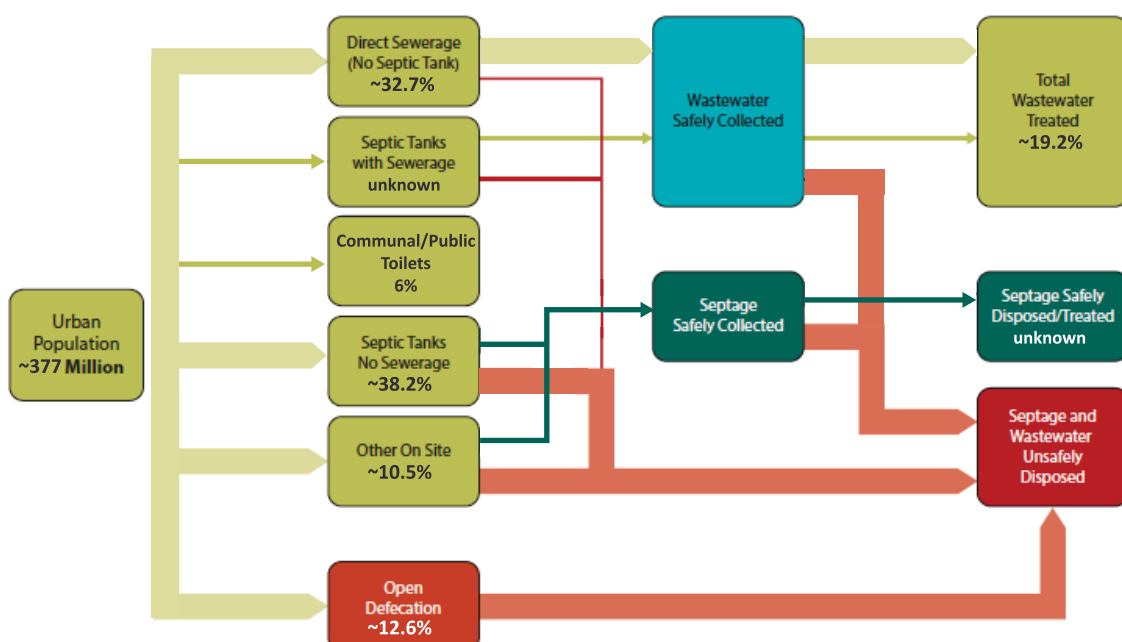
The two countries have similar urban sanitation scenarios as seen in the figures below. 13.9% and 13.1% of the total urban population defecates in open, in Indonesia and India respectively. On-site sanitation systems such as septic tanks serve a major proportion of urban population in both the countries. The coverage of the sewerage systems in India is much higher than in Indonesia. Waste water treatment in Indonesia is at a much lower level i.e. 1% than in India, where as per a 2009 report it was at 19.2%. There are no exclusive septage treatment facilities in any of the Indian cities. Some septic tank septage is disposed off in sewerage treatment plants in India, but there is no record of the overall volume of the same.

**Figure 4: Wastewater and septage flow in Indonesia**



Source: World Bank, 2013

**Figure 5: Wastewater and septage flow in India**



Source: CPHEEO Ministry of Urban Development Government of India 2012, Central Pollution Control Board Government of India 2009, CPR analysis



# URBAN SANITATION INSTITUTIONAL ARRANGEMENTS

## INDONESIA

In Indonesia, the decentralization in the late 1990s resulted in the central government devolving most of the planning, financing and management powers and functions to the local governments and assumed the responsibility of overall sector policy development, standards setting, and capacity building.

## CENTRAL GOVERNMENT

At the national level, there are many ministries and agencies that are involved in the urban sanitation sector. The table below shows their main responsibilities and functions:

**Figure 6: Indonesia's central government agencies involved in the urban sanitation sector**

Ministry/Department	Agency	Responsibility
BAPPENAS (National Planning Agency)	Air Minum dan Penyehatan Lingkungan (AMPL)- National Steering Committee for Drinking Water and Environmental Health	Principal national body to coordinate the implementation of sanitation strategy
	POKJA-AMPL- Inter-ministerial working group on water and sanitation	Executing body for AMPL, provides policy and implementation guidance
Ministry of Public Works (MPW)	CiptaKarya (Directorate General of Human Settlements)	Provides local governments with infrastructure development and rehabilitation, technical assistance and service performance standards
Ministry of Health (MOH)	--	Hygiene and sanitation promotion, capacity building and sanitation emergency response systems, especially in low income communities,
Ministry of Environment (MOE)	--	Administers and enforces domestic wastewater regulations (in conjunction with MPW and MOH)
Ministry of Home Affairs (MOHA)	--	Development of the capacity of local governments and for supporting provincial and city/district level water and sanitation working groups (POKJA-AMPLs)

Source: Ministry websites, CPR analysis

## PROVINCIAL GOVERNMENTS

- The provincial governments play the role of facilitator between central government and local governments. According to Government Regulation No. 19/2010, the provincial government is also required to provide a service monitoring function.
- There are two provincial water utilities (Perusahaan Daerah Air Minum, PDAM), one in Jakarta and another in North Sumatra.

## LOCAL GOVERNMENTS

- The decentralization process in Indonesia started in the late 90s and by 1999; a number of political and fiscal functions were transferred to local governments. The overall responsibility of water supply and sanitation service delivery now lie with the local governments.
- Bappeda (Badan Perencanaan dan Pembangunan Daerah) is the local planning and development unit responsible for policy and strategic guidance. Other local government bodies like the Cleaning and Landscaping Agency (Dinas Kebersihan dan Pertamanan, DKP), the Environmental Services Agency (Dinas Lingkungan Hidup, DLH) and the Public Works Department (Pekerjaan Umum, PU) also provide policy assistance. The Environmental Services Agency also constructs and manages communal toilets in some cities.
- Provision of water supply and wastewater services in urban areas is the responsibility of local-government owned water utilities (Perusahaan Daerah Air Minum, PDAM). Of 304 PDAMs at the local-government level, 91 PDAMs operate at the city level and the rest at the district level. There are also two utilities (Perusahaan Daerah Air Limbah, PD PAL), one in Jakarta and another in Banjarmasin cities that are exclusively dedicated to wastewater services. PD PALs have greater financial and operation independence from the local government and the PDAM.

## INDIA

The Indian urban sanitation sector has a fragmented and decentralized institutional structure. The Ministry of Urban Development and Ministry of Housing and Urban Poverty Alleviation at the central government level have a limited advisory and financial role, while the state governments are the primary tier of government responsible for urban development as the constitutional mandate. However, since 2005 when the JNNURM program was launched, there is much greater involvement of central government in infrastructure creation for the sector.

According to the 74th Constitutional Amendment (74 CAA), passed by Parliament in 1992, responsibility of service delivery lies with the urban local bodies. In reality, the services in urban areas are provided by different agencies in different states, which could be urban local bodies or city level boards or state level departments such or state-level parastatal agencies. See figure 8 below

**Figure 7: Various models for water and sanitation service provision in India**

<p><b>1. Urban local bodies</b> eg. Municipal Corporation of Greater Mumbai; Ahmedabad Municipal Corporation, Pune Municipal Corporation etc.</p>
<p><b>2. City level boards</b> eg. Delhi Jal Board (DJB); the Bangalore Water Supply and Sanitation Board (BWSSB), etc.</p>
<p><b>3. State level departments /public health and engineering departments (PHEDs)</b> e.g. and Public Works Departments (PWDs); Rajasthan PHED; Odisha PHED etc.</p>
<p><b>4. State-level parastatal agencies</b> e.g. Kerala Water Authority; Tamil Nadu Water Supply and Drainage Board; Karnataka Water and Sanitation Board etc.</p>

Source: CPR analysis





## URBAN SANITATION FINANCING

- In Indonesia, there are three main sources of financing for urban sanitation:
  - (i) National Development budget (APBN)
  - (ii) Special grant allocation from the national budget to local governments (DAK)
  - (iii) Local government budgets (APBD)
- The investments required for PPSP till 2014 are estimated to be about USD6.8 billion. Since 2010, there has been a DAK dedicated to sanitation to support financing PPSP. In addition, there is substantial donor funding in the form of loans and grants which forms about 12% of the total requirement.
- By 2012, National funding for sanitation had increased almost ten times from 2006.
- Local government budgets for sanitation have increased over the last few years. In 2012, APBD allocations for sanitation ranged between two to four percent of the overall local government budgets.
- In India, most of the urban sanitation capital costs financing is from central government plan expenditure through urban infrastructure schemes such as JNNURM and from state government programmes. There are limited funds spent by local governments, who are at best involved in the daily operation and maintenance of public toilets and sewerage networks and treatment plants in a few states. JNNURM has made investments of 3.2 billion US dollars into the sewerage and waste water treatment sector. The National River Conservation Program another flagship program aimed at improving the condition of rivers and lakes in the country has invested about one billion US dollars in the sector since 1995. While these are significant financial resources, especially when compared to ten years ago as per a Report of the Ministry of Urban Development another 40.4 billion US dollars would be required over the 2011 to 2031 period to achieve acceptable levels of sanitation infrastructure across urban India.

## RECENT URBAN SANITATION POLICIES, STRATEGY AND PROGRAMMES

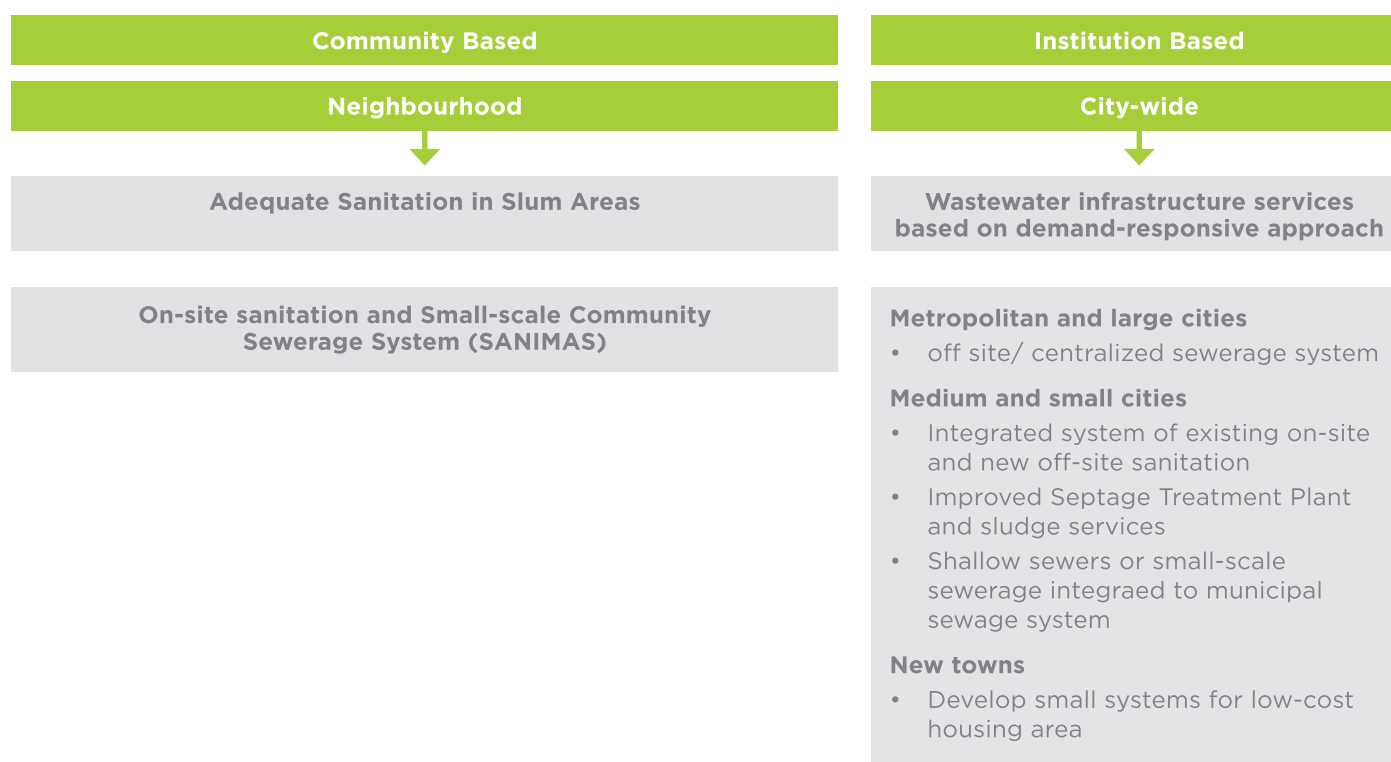
### INDONESIA

The Government of Indonesia has developed a two-pronged approach to improve urban sanitation scenario in the country. In 2006, it prepared two separate but complementary draft policies for community-managed and institutionally-managed services. The figure below shows the overall strategy adopted by the national government.

### SANIMAS, 2005-2014

- As a follow up to the National Policy, an incentive investment program was initiated in 2005 to develop community sanitation infrastructure in urban slums after the successful pilot in 6 cities during 2003-2004.
- Under SAMINAS, a community of approximately 80-100 households is organized and assisted to make a choice, based on their local situation from three sanitation options:
  - (i) A communal amenities block with water stand pipe, bathing and toilet facilities
  - (ii) Shared Septic Tank for 3-5 households
  - (iii) Shallow sewer system connected to communal septic or imhoff tank.
- The Government of Indonesia adopted a National Policy for the Development of Community Managed Water Supply and Environmental Sanitation Facilities and Services in 2003. The policy provided for communities to become the main actors in planning, construction, operation and maintenance of sanitation facilities.

Figure 8: Indonesia's urban sanitation approach



Source: Sudjimah, 2013 (modified)

Cost is shared in the proportion of 30:60:10 between the central government, local government, and the community. The community is also responsible for operation, maintenance and collection of user fees.

- Over the years of implementation, keeping sustainability in mind the role of the private sector and local government have been strengthened in these community-driven sanitation projects to improve operation and maintenance performance.

### NATIONAL STRATEGY FOR COMMUNITY BASED TOTAL SANITATION (SANITASI TOTAL BERDASAR- MASYARAKAT, STBM), 2008

- The STBM strategy was issued by the Ministry of Health in 2008 as a decree aimed at increasing public demand for better sanitation through IEC (information, education and communication), capacity building of local government, creating an enabling policy environment through advocacy, and by improving the private supply chain of sanitation products.

### NATIONAL POLICY AND STRATEGY ON DOMESTIC WASTEWATER MANAGEMENT, 2008

- The Policy addresses five areas: (i) increasing access to sanitation for urban and rural communities with priority for low income households; (ii) increasing the role of the community and the private sector in provision of sanitation services; (iii) development of a regulatory framework for management of sanitation; (iv) building the capacity of institutions and personnel involved in wastewater management; and (v) increasing investment and developing alternative funding sources for wastewater infrastructure

### NATIONAL MEDIUM TERM DEVELOPMENT PLAN (RENCANA PEMBANGUNAN JANGKA MENENGAH NASIONAL, RPJMN) 2010-2014

- The National Medium-Term Development Plan (RPJMN) for 2010-2014 outlines the problems faced by the sanitation sector and to be addressed



during the plan period such as inadequate regulatory mechanisms, lack of local capacity and limited finance.

- The plan sets targets to achieve open-defecation free status for Indonesia by 2010 through development of off-site sanitation systems covering 10% of the total population (5% DEWATS systems and 5% sewerage) and on-site private or shared sanitation facilities for the rest 90% of the total population.

4 cities. The target is to bring sewerage coverage in all these 16 cities to about 15 percent on average by 2014.

- PPSP is being implemented in the city through 6 stages: (i) IEC activities and advocacy (ii) Development of institutional and regulatory mechanisms (iii) Preparation of City Sanitation Strategy (SSK) and white paper (iv) Memorandum Preparation (v) Implementation (vi) Monitoring and Evaluation. City Sanitation Strategies (SSKs) and white papers are used as the basic planning tools to lay out the current situation of sanitation, future infrastructural requirements, financing and implementation. By 2012, 104 cities were at the stage of preparing their city sanitation strategies (SSKs), 58 cities were at the memorandum preparation stage and 63 cities in the implementation phase.

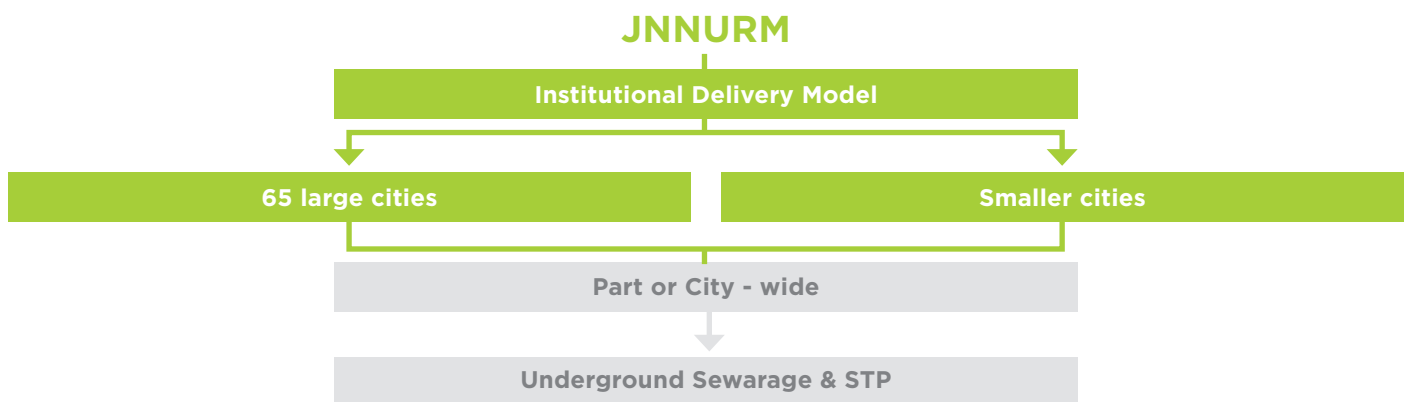
### SETTLEMENT SANITATION DEVELOPMENT ACCELERATION PROGRAM (PPSP) 2010-2014

- The Government of Indonesia launched the PPSP in 2010 in order to achieve RPJMN and MDG (Millennium Development Goals) targets for the period 2010-2014.
- The program is aimed to increase coverage of sewerage systems in 16 cities to serve an additional 5 percent of the total urban population (or five million people) and expand the SANIMAS (decentralized sanitation systems) in 330 cities to reach an additional ten to fifteen million population.
- The PPSP centralized systems includes extending the networks and the treatment capacity for 12 cities where there was already existing sewerage in 2010 and constructing new systems for the other

### INDIA

Public investment in urban sanitation in India, till the launch of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) in 2005, was essentially funded through state government resources of externally aided projects. Urban sanitation received National focus on the launch of the JNNURM and policy attention followed with the adoption of the national Urban Sanitation Policy in 2008.

Figure 9: India’s urban sanitation approach



Source: CPR analysis

## JAWAHARLAL NEHRU NATIONAL URBAN RENEWAL MISSION (JNNURM), 2005-2014

Government of India's flagship program Jawaharlal Nehru National Urban Renewal Mission (JNNURM) was launched in recognition of the importance of urban development to national economic growth. It provides for financial and technical assistance to States and cities for urban infrastructure development, based on the development of City Development Plans and Detailed Project Reports. With regard to urban sanitation the JNNURM program has focussed on covering cities with underground sewerage and installing wastewater treatment plants. As of January 2014, in this period 225 sewerage projects, with a project cost of Rs 19,230 crs (3.2 billion US dollars) have been approved.

## NATIONAL URBAN SANITATION POLICY (NUSP) 2008

The Government of India formulated the NUSP that was formulated in 2008. It requires all the states to prepare State Sanitation Strategies (SSSs) and cities to prepare City Sanitation Plans (CSPs). Many states and cities have already prepared SSSs and CSPs while others are in the process of doing so.

## DISCUSSION ON INDONESIA AND INDIA

Both countries have seen significant focus being given to urban sanitation in the past decade, when compared to earlier decades. During this period, both countries have had new policies, plans and programs for urban sanitation. This policy and program attention is well justified given that the largest number of people without access to toilets reside in these two countries which together account for close to 65 percent of the global urban population who need to defecate in the open. Funding and planning for improving sanitation has seen a great deal of activity on the ground too.

In spite of these strong similarities, the strategies adopted by each country is different and unique. The focus and options developed for community managed decentralised systems at scale being adopted in Indonesia is in contrast, to the 'one size fits all' institution based underground sewerage model deployed in India. The two countries therefore should have a lot to learn from each other on the opportunities and constraints that these contrasting models present in scaling up coverage of services. India is currently in search of robust alternative models, especially for smaller cities and for slums in urban areas and areas in the periphery of large cities. In our opinion the community managed decentralised systems and the design of the SANIMAS program could present an interesting and viable option.



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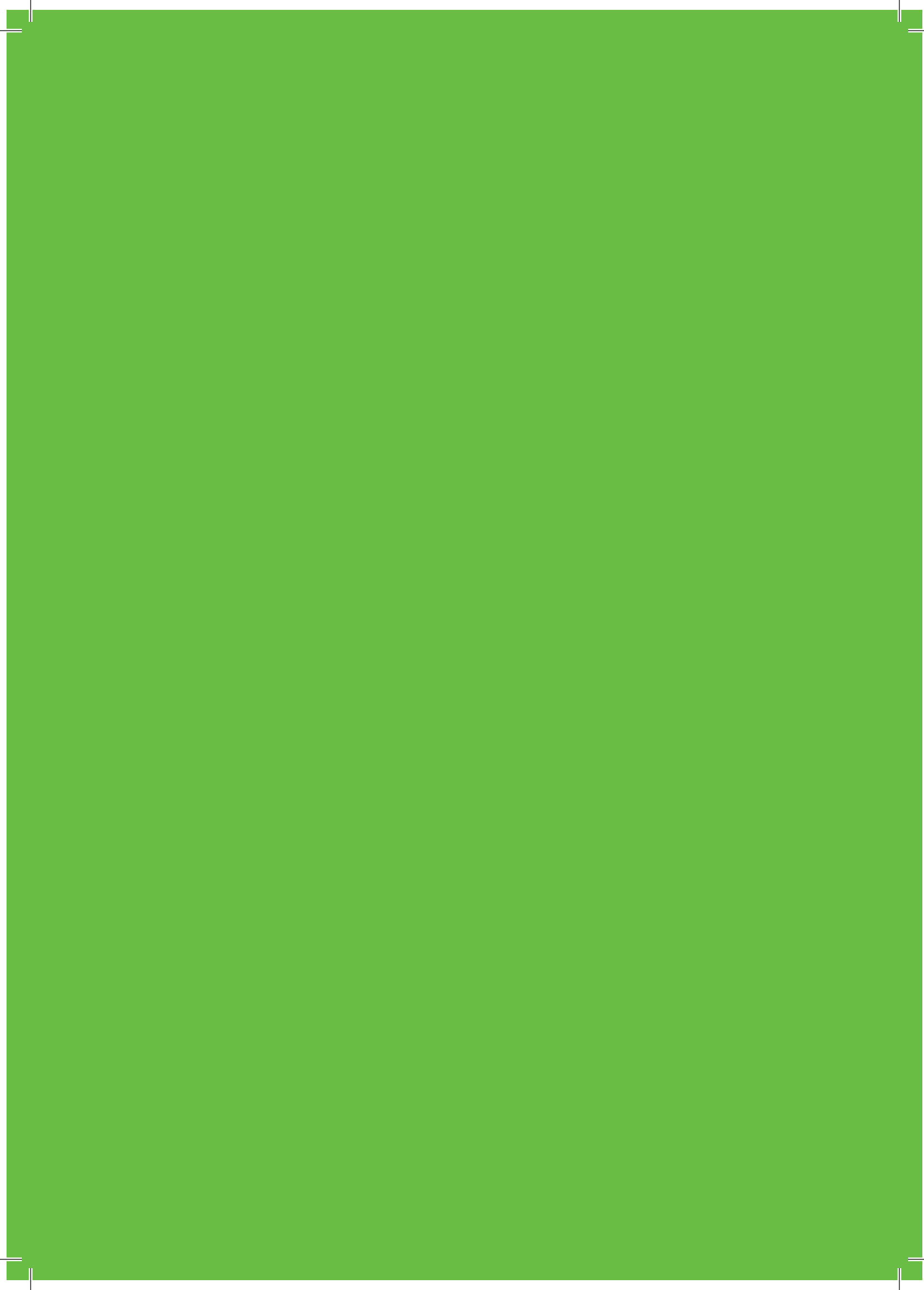
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## ABOUT SCI-FI SANITATION

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Through research, SCI-FI: Sanitation aims to inform and support the formulation and implementation of the Government of India's urban sanitation programmes and investments. The research program will study two cities in two different states to understand the reasons for poor sanitation and inform and support the state and city governments in modifying their urban sanitation programs so that they are supportive of alternative technology and service delivery models, with the goal of increasing access to safe and sustainable sanitation in urban areas.

## ABOUT THE SERIES

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**POLICY BRIEFS:** These present a brief summary of key policy issues. Challenges that need to be addressed at national, state and local city level are discussed and some recommendations for policy makers are suggested.

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