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URBAN DEVELOPMENT AND URBAN HOUSING DEPARTMENT

Notification

Sachivalaya, Gandhinagar, 15/06/2017

Gujarat State Policy for Faecal Sludge and Septage Management (FSSM)

NO. GH/V/127 OF 2017/AMT-102017-SF.52-DH:-- Govt. of India has launched reforms linked Atal Mission for Rejuvenation and Urban Transformation (AMRUT) covering 31 cities of Gujarat. In India, responsibility of providing waste water service lies with State government. As part of urban reforms of AMRUT it is compulsory that State must have policy for Faecal Sludge and Septage Management (FSSM) for urban area. Therefore, this policy for Faecal Sludge and Septage Management (FSSM) has been prepared with vision as "All cities and towns in the state to become totally sanitized, healthy and liveable and ensure sustenance of good sanitation practices with improved Sanitation Services to achieve optimum public health status and maintain clean environment with special focus on the poor."

To achieve the vision the policy key objective of this policy is to support ULBs in Gujarat to implement FSSM plan in their cities and to achieve safe and sustainable sanitation in the cities. The policy frames on State and Central acts and rules and based on National Urban Sanitation Policy and National Policy on Faecal Sludge and Septage Management (FSSM), 2017.

The Policy for Faecal Sludge and Septage Management (FSSM) is in enforcing from the date of notification.

By order and in the name of the Governor of Gujarat.

S.B. Poptani,

Under Secretary to Government
Urban Development and Urban
Housing Department

Government of Gujarat
Urban Development Department

DRAFT POLICY DOCUMENT

Faecal Sludge and Septage Management (FSSM) Policy

March 2017



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Government of Gujarat

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Introduction

1.1 Current situation of Sanitation in Gujarat

Gujarat is one of the most urbanized states of the country. It has an urban population of 2.4 crores accounting for 42.6 % of the total population of the State. Due to rapid pace of urbanization in the state, the state government has had an accelerated programme of urban infrastructure provision in the state, with an aim to cover every urban household with water and sewerage connection. . As per Census 2011 out of total estimated 5,416,315 HHs in all cities of Gujarat around 88% (4,750,063) HHs have access to individual toilets at home.

The service level benchmark database¹ for year 2015-16 indicates that 70 cities of the state have underground sewerage system. In urban periphery and small towns, the reliance on on-site sanitation systems is prevalent. On-site technologies such as twin-pit or septic tank based toilets are very common. As per Census 2011 information, around 69 % (3,270,206) HH toilets are connected with underground drainage connection, 28 % (1,313,454) are connected to septic tanks and around 3% (162,948) to pits and other systems.

170 cities of Gujarat generate 4385 MLD waste water out of which 2115 MLD waste water is treated in STPs. In cities that have sewerage network and functional STPs, sludge from septic tanks is emptied in manholes or transported to STPs and treated along with the sewage conveyed through the underground network.

1.2 Definition of Faecal Sludge and Septage

“**Faecal Sludge**” is raw or partially digested, in a slurry or semisolid form, the collection, storage or treatment of combinations of excreta and black water, with or without grey water. It is the solid or settled contents of pit latrines and septic tanks. The physical, chemical and biological qualities of faecal sludge are influenced by the duration of storage, temperature, soil condition, and intrusion of groundwater or surface water in septic tanks or pits, performance of septic tanks, and tank emptying technology and pattern. Faecal sludge is the solid or settled contents of pit latrines and septic tanks. Faecal sludge (FS) comes from onsite sanitation systems, examples of onsite technologies include pit latrines, non-sewered public ablution blocks, septic tanks, aqua privies, and dry toilets.

“**Septage**” is the liquid and solid material that is pumped from a septic tank, cesspool, or other treatment facility after it has accumulated over a period of time. A septic tank will usually retain 60 to 70% of the solids, oil, and grease that enter it. The scum accumulates on top and the sludge settles at the bottom, comprising 20 to 50% of the total septic tank volume when pumped. Septage has an offensive odour and appearance and contains significant levels of grease, grit, hair, and debris. It is a host for many disease-causing organisms. Septage is the combination of scum, sludge, and liquid that accumulates in septic tanks.

1.3 Importance of FSSM in Gujarat

The State Government has shown firm commitment towards inclusive development of the urban areas by implementing various Urban Infrastructure Development projects in the State. The state Government has launched “Swarnim Jayanti Mukhya Mantri Shaheri Vikas Yojana” (SJMMSVY)

¹ Available at www.pas.org.in

programme in the year 2009, to provide infrastructure and basic services in urban areas. Total allocation for this programme by the state government was Rs 22,000 crores, of which 5700 crores were allocated for sewerage projects. It is envisioned that all cities in the state will have underground sewerage system. However till the sewerage projects become operational, the state will adopt and implement FSM in all cities. Recognising the importance of FSSM, the state government has published standard operating procedures for faecal sludge and septage management under the Mahatma Gandhi Swachhata Mission.

2 Objectives and Scope

2.1 Vision

The vision for FSSM policy in Gujarat is:

All cities and towns in the state to become totally sanitized, healthy and liveable and ensure sustenance of good sanitation practices with improved Sanitation Services to achieve optimum public health status and maintain clean environment with special focus on the poor.

2.2 Objectives and Scope

The key objective of this policy is to support ULBs in Gujarat to implement FSSM plan in their cities and to achieve safe and sustainable sanitation in the cities. More specifically, the Policy will:

- i. Make all ULBs in Gujarat fully sanitised by the year 2019, and ensure that benefits safe sanitation accrue to all citizens.
- ii. Suggest and identify ways and means, including the methods and resources, towards creation of an enabling environment for realising safe and sustainable FSSM in Gujarat
- iii. Define the roles and responsibilities of key stakeholders such as ULBs, private sector, civil society organisations and citizens for effective implementation of FSSM services in the state.
- iv. Enable and support synergies among relevant Central Government and State government programs to realise safe and sustainable sanitation for all at the earliest, possibly by the year 2019.
- v. While not compromising the eventual compliance to the strict environmental discharge standards already set, recognising the constraints in achieving these standards, adopt an appropriate, affordable and incremental approach towards achieving these standards
- vi. Mitigate gender-based sanitation insecurity directly related to FSSM, reducing the experience of health burdens, structural violence, and promote involvement of both genders in the planning for and design of sanitation infrastructure.

The scope of this FSSM policy will cover only onsite sanitation facilities and areas served by such facilities, while it will not cover network or conventional sewerage system (including treatment plants) of wastewater/sewage management, however the synergy between septage management and sewerage systems or municipal solid waste (MSW) management, e.g., co-treatment of septage at sewage treatment plants or co-treatment and management of septage with municipal solid waste is recognised, and these aspects will be covered.

2.3 Expected Outcomes

This Policy will be implemented across the state, some key projected outcomes are:

- Containment of all human waste in 100% of the towns and cities
- Safe collection and conveyance of human waste to treatment and disposal sites
- Cost-effective solution for management of human waste through integrated network sewerage, small bore sewerage, and faecal sludge and septage management.
- Scheduled emptying of septic tanks or other containment systems at an interval of 2-3 years as recommended by CPHEEO Manual, MoUD advisory on Septage management (2013) and National FSSM policy
- Safe disposal of all collected faecal sludge and septage at designated sites (sewage treatment plants, faecal sludge treatment facilities for safe and scientific disposal, etc.)
- Preventing Contamination of water bodies and groundwater from human waste (faecal matter) in all the towns and cities across the state
- Maximum reuse of treated sludge as fertilizer in farmlands, parks, gardens and other such avenues, reuse of treated sewage, as source of energy where feasible, and any other productive uses.

These outcomes will be achieved by each ULBs through implementation of a FSSM plan. ULBs should refer to Annexure 1 which provides a framework for preparation of city level FSSM Plan. The FSSM Plan will cover the entire service chain starting from design of septic tank, collection, conveyance, safe treatment and reuse or safe disposal of faecal sludge and septage. FSSM plan will include activities related to asset creation in terms of septic tanks, creating faecal sludge and septage treatment facilities and procurement of vehicles to ensure regular/scheduled cleaning cycle of 2-3 years. Additionally, ULBs will also formulate bye-laws related to onsite sanitation, create database on onsite sanitation arrangements in the city, explore possibilities for private sector involvement in FSSM and levy tax / charges to finance FSSM activities.

3. Legislative and Regulatory Context

The legal context for FSSM policy is guided by the following state and central laws and regulations.:

1. Environmental (Protection) Act, 1986 & Environment (Protection) rules, 1986
2. The water (Prevention and control of pollution) Act, 1974 & The water (Prevention and control of pollution) Amended rules, 2011
3. The water (Prevention and control of pollution) cess, Act, 1977 & The water (Prevention and control of pollution) Cess rules, 1978
4. Manual on Sewerage and Sewage Treatment Systems, by Central Public Health and Environmental Engineering Organisation (CPHEEO), MoUD, 2013
5. National Building Code, 2005
6. Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013
7. Standards set for waste water by Bureau of Indian Standards (BIS)
8. The Municipal Solid Waste (MSW) Rules, 2016

9. Quality standards for waste water & waste water disposal suggested by Central Pollution Control Board
10. Coastal Regulation Zone Notification, 2011

The rules and regulations for FSSM at state level include:

1. Gujarat Municipal Act 1963
2. Bombay Provincial Municipal Corporation Act 1949
3. Quality standards for waste water & waste water disposal suggested by Gujarat State Pollution Control Board
4. Development control regulations for Municipal corporations
5. Model building bye laws for Nagarpalika

4. Roles and Responsibilities

The various roles and responsibilities of various stakeholders is detailed out below :

State Governments:

The state government will be responsible for the overall guidance, coordination and interpretation of this Policy. It will develop State level FSSM strategy, implementation plan and develop operative guidelines for the same. It will also undertake training and capacity building programmes for ULB officials and others engaged in FSSM services. It will create an enabling environment for participation of the private sector, NGO's and CSOs in provision of FSSM services, including to the poor and marginalized households and areas. State level awareness and behaviour change campaigns will also be undertaken. State will set up state level monitoring and evaluation systems and will also support in research and capacity building activities.

Urban Local Bodies:

ULBs will design, develop and implement FSSM Plan through appropriate council resolutions, which will operate a system for safe and sustainable collection, scheduled conveyance, treatment and reuse / disposal of faecal sludge and septage. It will undertake awareness and behaviour change campaign to engage diverse stakeholders to achieve the objectives of FSSM Policy in a time-bound manner. The plan will include components on eliminating manual scavenging and rehabilitating manual scavengers. The ULB can also levy sanitation tax / user charge/ fees appropriately to finance O & M cost of FSSM services. It will set up a monitoring and evaluation system to evaluate the implementation of FSSM plan

Private sector:

They will support the ULBs in provision of safe and sustainable septage management services

NGO's and Civil Society Organisations:

They will support in implementation of FSSM activities at ground level and raise awareness/ sensitization on the importance of FSSM among the citizens of the city. They will also provide monitoring support to the ULB on any unsafe practices that impact effective implementation and will engage in setting up regular interactions with the ULB to discuss operational issues and be part of the solution.

Community:

They will engage in timely and regular/scheduled emptying of septic tanks / pit toilets through approved entities. They will undertake regular maintenance and monitoring of onsite systems and will ensure timely payment of user fee and/or tax, if any, towards FSSM services. They will also follow and practice Building Byelaws for proper construction of onsite systems

5. Implementation Approach**5.1 State-level implementation strategy**

It is envisaged that by October 2019, all ULBs in Gujarat will mainstream FSSM and achieve the overall vision of National FSSM policy of Govt. of India. The state will provide technical training and financial supports to ULBs for implementing FSSM in their cities. The ULBs should refer to the standard operating procedure for faecal sludge management provided in Guidelines for 'Open Defecation Free Towns' under the Mahatma Gandhi Swachhata Mission.

6. Financing Plan**6.1 Funding options for State and ULBs**

- a. IEC & Capacity building funds: SBM provides IEC funds, which can be utilized for various awareness generation activities for implementing FSSM plan. Capacity building for ULB staff, septage transporters, treatment plant operators and residents of city will be undertaken.
- b. Funds from 14th finance commission can be used for implementing FSSM plans.
- c. Convergence with existing schemes/activity: ULBs may utilize funds from ongoing national programme like AMRUT and state programmes.

6.2 Other funding models

- a. Private sector participation across sanitation service chain can be engaged by ULB for provision of FSSM services
- b. Sanitation tax/ user charges can be levied by the ULB to meet the O&M cost for effective FSSM operations.
- c. Funding from CSR and other external agencies for implementing FSSM plans can be explored by the ULB.

7. Monitoring & Evaluation

The San-benchmark framework as proposed by National FSSM policy as a revised service level benchmark for sanitation has already been adopted by the state government of Gujarat For ULBs to avail the performance grant under 14th FC commission, they have to notify the revised service level benchmarks. These results will be used to monitor the outcome under AMRUT, SMART cities and SBM.

ULBs will be responsible for monitoring and evaluation of its performance related to FSSM activities across sanitation value chain. ULBs will have to develop a robust database related to on-site sanitation system and robust reporting format to track compliance of households (establishments, etc.) and service providers for FSSM related activities. Therefore, it is directed to all ULBs to create information on toilet and its disposal system in next cycle of property tax assessment and need to integrate in existing e-governance system.

8. Community engagement and stakeholder involvement

ULBs will be supported by the state government for developing awareness materials related to FSSM. The ULBs will have to create a stakeholder engagement platform at ULB level, where various stakeholders can report and provide feedback on various FSSM activities undertaken in the city.

9. Capacity Building & Training

A strategy on capacity building and training on FSSM planning will be formulated by Government of Gujarat, to support cities to build their capacities for delivery of sanitation services. Effort will be undertaken by state government to integrate the FSSM components in ongoing capacity building programme under AMRUT, SMART Cities and SBM.

The state government will identify state level training institute that will train and build capacities of ULB officials on various aspects related to FSSM planning. Training will also be imparted to private sector players and NGOs to help them engage and deliver effectively in the provision of FSSM services.

10. Annexures

Annexure 1: Framework for preparation of city level FSSM Plan

City-level Assessment

Citywide assessment of FSSM is the key step for FSSM process planning. This is organized around five key areas. The cities shall undertake assessment of the current situation of FSSM around the five areas detailed out below for developing a FSSM plan that would be technically appropriate and financially feasible at local level. Assessment in each area entails review of available information at city level, identifying information gaps, and conducting field studies where necessary.

A. Assessing service performance across the full service chain

Assessing performance across the sanitation service chain through a city level assessment is the first step that cities will undertake. It is an important exercise, which provides an initial sense of the state of FSSM in the city, help in understanding the context and identifying gaps in key services. Annexure 2 provides an example of a tool (*San-Benchmarks*) to assess service performance though there may be other such tools and approaches that could be employed by the cities.

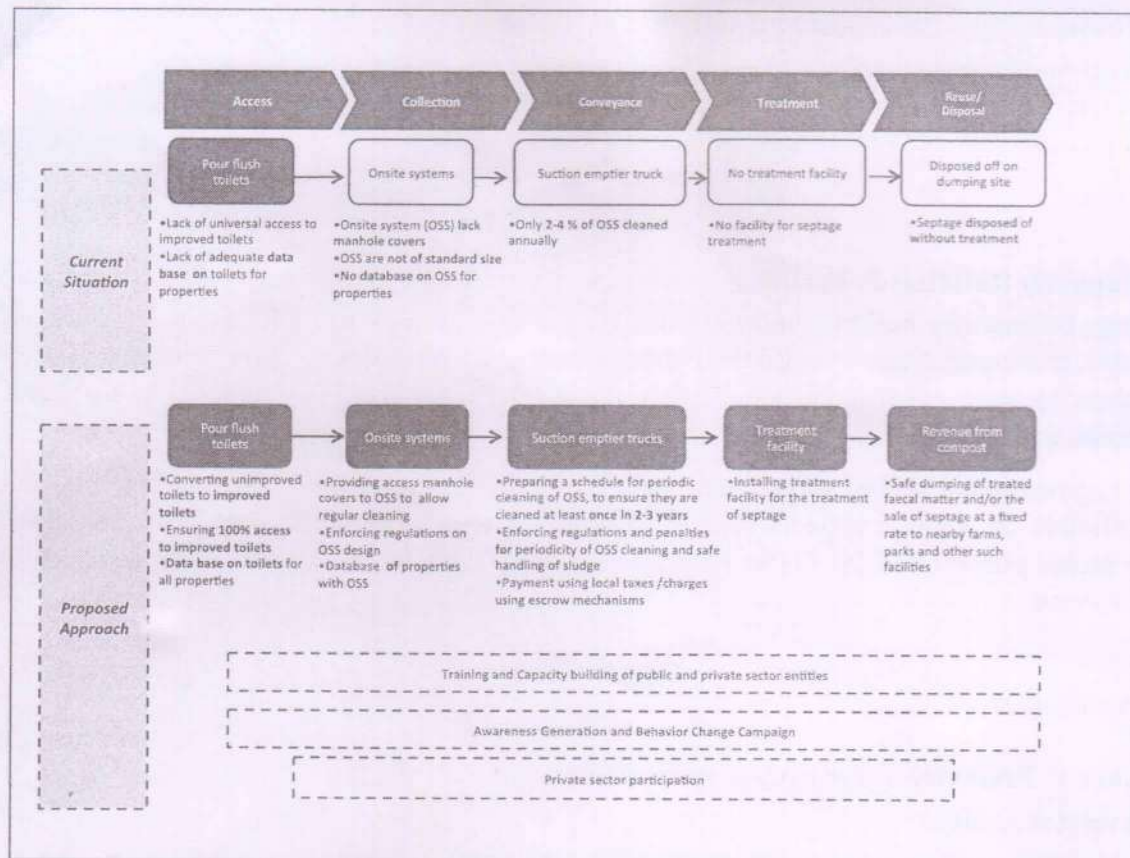


Figure 1: FSSM Service Chain²

Figure 3 depicts the existing situation assessment of on-site sanitation status across service chain in majority urban local bodies of India and a possible framework for action to achieve the vision of improved sanitation through FSSM.

B. Enabling Environment: Policy, Regulation and Institutions

Sanitation is increasingly seen as a key issue in environmental protection. Improper disposal of human waste can pollute water bodies, groundwater, and land surfaces. This affects the quality of life for those living in the urban area. In this context, it is important that cities understand and assess the prevailing enabling and regulatory environment as well as capacity of local stakeholders to manage the citywide FSSM services. This should be aligned with the State/national policies and guidelines on FSSM, and the regulatory framework for treatment, disposal, and reuse of faecal matter.

Cities should also work in active partnership with service providers to design a robust set of interventions, based on ground realities and operational issues. There should also be a system of disincentives and regulation that is strictly enforced; with a set of incentives and market opportunities for those with good compliance (e.g. discounts on tolls, registration and better branding).

C. Technology options for FSSM Services

In planning citywide FSSM service, it is important that cities assess technology options for each link in the service chain. This ranges from appropriate toilets and onsite systems such as septic tanks and conveyance to treatment and reuse. For toilets and septic tanks, assessment of these systems is necessary. For emptying services, options such as scheduled emptying of pits/septic tanks and assessing infrastructure requirements need to be assessed. Finally, many technologies are

² Guidelines for septage management in Maharashtra, Swachh Maharashtra Mission, Urban Development Department, Govt. of Maharashtra.

available for septage treatment. These will need to be assessed using a framework for choosing an appropriate option for treatment of septage at a city level, including looking at existing installed treatment capacity at sewage treatment plants in potential proximity. The possibility of reuse will also need to be assessed.

D. Role of private sector role across the service chain

While the city government generally has the mandate to ensure service provision, often there is an active private sector that provides FSSM services in the city. It is necessary that cities assess the current role of private sector providers as well as their potential role in a citywide service provision. The assessment will thus need to start with a quick landscape analysis, and can be followed by a detailed assessment after the FSSM strategy is developed and development of performance based contracts. It is also important to have well designed service level agreements, with both incentives for good performance and disincentives/penalties for failing to deliver at agreed upon quality standards. Women entrepreneurs should be especially encouraged, either directly or through the cooperative and SHG vehicles. These can be for both operating community / public toilets and also desludging operations, and other sanitation services.

E. Financial assessment

To ensure financial sustainability of FSSM services, it is important that cities assess capacity for financing of both capital and O&M expenditure over the plan period. This can start with an assessment of financial requirements for both capital and O&M expenditures along with subsequent tariff restructuring to make the system sustainable.

This assessment should also provide guidance to cities on potential sources of finance for meeting these expenditures including through external grants, private sector investments, user contributions, and external debt or through local government internal resources.

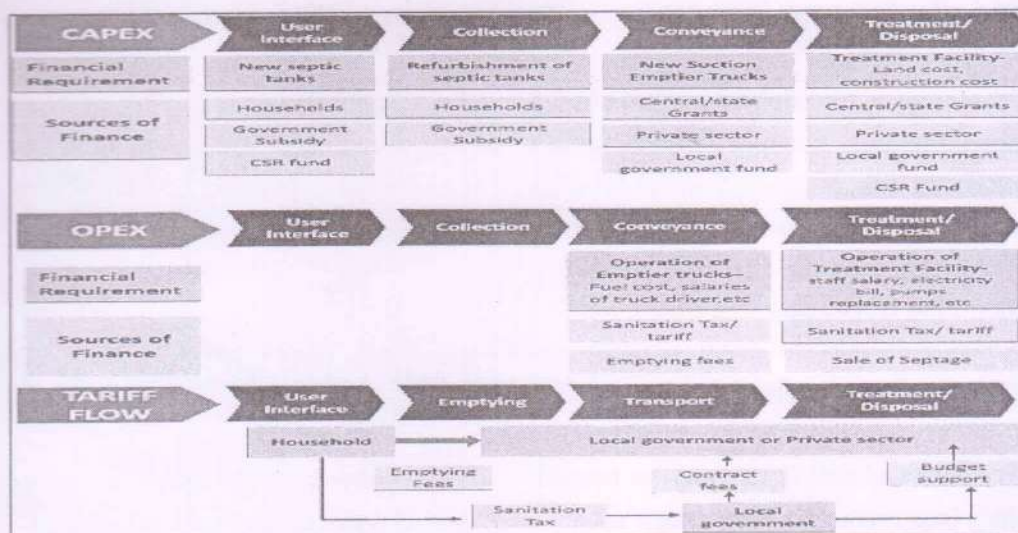


Figure 2: Flow and Sources of Funds³

More details regarding this framework is available on www.ifsmtoolkit.pas.org.in

³ Primer on Faecal Sludge and Septage management, Ministry of Urban Development, Government of India

Annexure 2: San-Benchmark framework: Revised Service Level Benchmark for Sanitation

Current SLB indicators (Sewerage System)	Proposed San Benchmark (Sewerage + Onsite systems)
1. Coverage of sewerage network services	1. Coverage of adequate sanitation system
Total number of properties with individual connections to sewerage network as a percentage of total number of properties in the city.	Percentage of households with individual or group toilets connected with adequate sanitation systems (sewer network/ septic tank / double pit system) to total households in the city.
2. Collection efficiency of sewerage network	2. Collection efficiency of sanitation system
Quantum of sewage collected at the intake of the treatment plant to the quantity of sewage generated (as per CPHEEO, 80% of water consumed is generated as sewage).	Weighted average of collection efficiency of each sanitation system, weighted by share of households dependent on each sanitation system.
3. Adequacy of sewage treatment capacity	3. Adequacy of treatment capacity of Sanitation System
Adequacy is expressed as secondary treatment capacity available as a percentage of normative wastewater generation.	Weighted average of adequacy of treatment plant capacity available for each sanitation system, weighted by share of households dependent on each sanitation system.
4. Quality of sewage treatment	4. Quality of treatment of sanitation system
Quality of treatment is measured as a percentage of WW samples that pass the specified secondary treatment standards, that is, treated water samples from the outlet of STPs are equal to or better than the standards lay down by the GoI agencies for secondary treatment of sewage.	Weighted average of quality of treatment of each sanitation system, weighted by share of households dependent on each sanitation system.
5. Extent of reuse and recycling of sewage	5. Extent of reuse and recycling in sanitation system
Quantity of wastewater that is recycled or reused after secondary treatment as a percentage of quantity of sewage received at the treatment plant.	Weighted average of extent of reuse of treated wastewater and sludge after adequate treatment as a percentage of sewage and sludge received at the treatment plant, weighted by share of household dependent on each sanitation system.

Source: SAN Benchmarks: Citywide assessment of sanitation service delivery – including onsite sanitation, PAS Project, CEPT University; short URL - goo.gl/Uv7vLW available on website: www.pas.org.in