

Design approaches, construction costs for various technical models of public and community toilets in India

The table below summarizes typical design approaches, construction costs for various technical models of public and community toilets in India (MCT Project Report – Volume I, Page 12-13)

Design approaches, Construction costs for various Technical Models of Public and Community Toilets in India

Toilet location	Power Supply	Ventilation	Treatment Options	Toilet base style	Dimension or Size	Material used for construction	Unit construction cost	Revenue earned after construction	Funding Agency
Namma Toilet - Tambaram	Solar Panels installed will supply power	Ventilation provided in superstructure on three sides for the entire length	Bio-Digester (Two numbers) with sump to process waste and release sewage into the existing network after processing it.	Improved ventilated pit latrine – 3 units (1 Men, 1 for Women and 1 for Physically challenged person).	1.2 m in width and 1.5 m in length and 0.9 m in height	Material used for construction fiber reinforced polymeric material.	Rs.70,000 for entire construction includes water supply, sump construction, solar panels installation and piping's and sewer connections	200 persons using per day and expected to increase 2000 per day within 3 years. – Right now it is free of cost (Planned to charge Rest. 1 for urinal and 3 for Toilet)	Funded by Tambaram municipal corporation and Maintained by IDBI Bank for 3 year contract
GRAMALAYA – Trichy (Kolakudipatti in Thottam block, Tiruchi district)	The power provided from TNEB, Trichy power network	The ventilation provided above the door and has vent pipe in collection tank	Collected in sump and sent in nearby sewer network and treated in STP	Single pit pour flush toilet.	4 feet by 4 feet and height 5.5 feet	Brick masonry is used for construction of sub structure and super structure	Unit construction cost Rs.6875 and Rs.150 – 15000 Varied readymade toilet models available.	Rs.1 for urinal and Rs. 2 for toilets. Maintained by GRAMALAYA and local farmers	Water aid and water org groups
DRDO Bio digester toilets – Arunachal Pradesh, Sikkim and J&K	No external power required, it is taken from the digester	Ventilation is at the top of toilet super structure	Bio digester technology- Two compartments - anaerobic microbial consortium and specially designed fermentation tank	Single pit toilet.	1.5 m x 1.2 m (BIS standard toilet design) and height 2.75 m	FRP material of volume 1 – 2 cu. m	Rs.15000 unit construction cost	Free of cost	FICCI, MoEF and DRDO
KARNIK toilets – 10 units in Karnataka district	Power supplied from the Karnataka state	Ventilation as per BIS dimension was provided at the side of masonry walls	Released into nearby sewer line and treated in STP	Community based – Double roof ventilated pit latrine	4 feet by 5 feet and height 9 feet	Brick masonry structure and RCC	Rs.20000 to Rs.25000 for all accessories and other facilities	Constructed in colleges and schools for girls students and its free of cost	NID, TRFI and Karnataka Nirmana Kendra
	electricity board								
Sulabh Toilet – Gandhi Maidan, Patna, Bihar	Power provided from state electricity board power networks	Ventilation as per BIS dimension was provided at the side of masonry walls	Released into nearby sewer line and treated in STP	Twin pit pour and flush toilet	1.2 m x 1.13 m and height 2.25 m	Brick masonry and RCC	Unit cost of construction vary from Rs.875 to Rs.60500	Free of cost for first 5 years and charges approximately Rs.1 for urinal and Rs.3 for Toilet	Sulabh International
ECOSAN – Thaneripandal, Madurai	The power provided from TNEB, Trichy power network	Ventilation provided at the side of walls as per BIS standard dimension	Water and solids are separated and treated separately. Solids are composted and used as manure.	Compost type toilet, Brick masonry structure	1.22 m x 1.52 m (4 feet x 5 feet) and height 9 feet	Brick masonry or hollow block masonry structure.	Unit cost of construction is Rs.14286	Revenue earned per year Rs.1200	SCOPE International
SPA toilets	-	Ventilation provided in the doors of the toilet	-	Single pit latrine	1.0 m width x 1.0 m length, or 1.0 m Diameter circular toilets units were used	The composite membranes are used for construction like fiber plastic, glass fiber and FRP materials.	-	-	School of architecture and planning, New Delhi

