



Design of Rain Water Harvesting System for Sampath Bank Head Quarters, Colombo

Lanka Rain Water
Harvesting Forum

June 2026



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Location:

Sampath Bank head Quarters, Nawam Mawatha, Colombo 2 (6.9196, 79.8529)

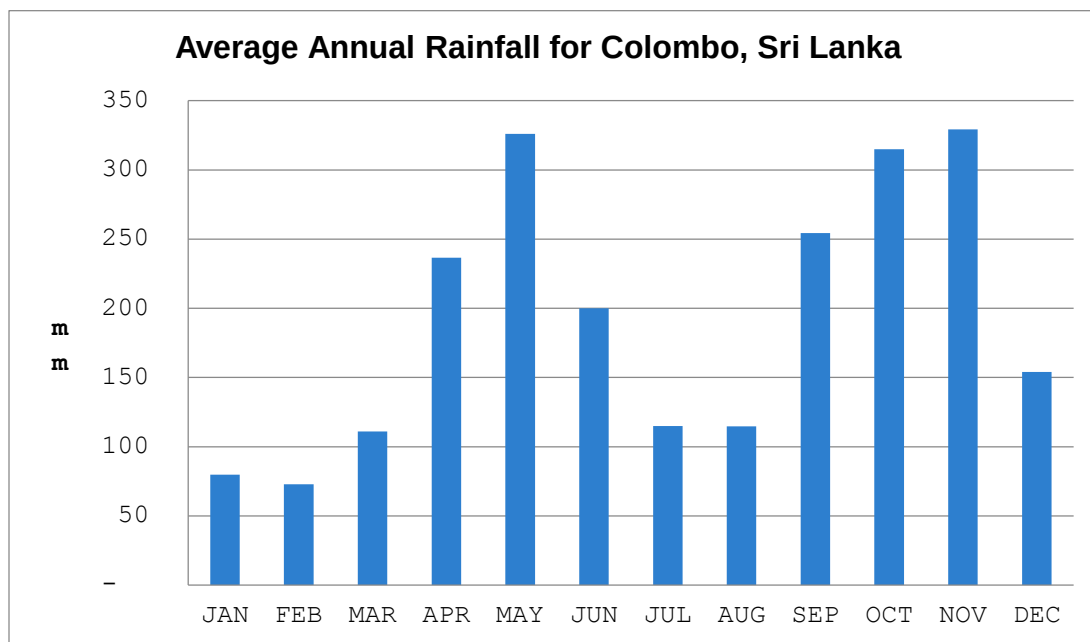
Available roof area: 10th Floor Auditorium roof area 618 m²

Roof type: Galvanized roofing sheets

The objective is to utilize the rainwater collected for gardening.

Available Storage: 35m³ tank on the 9th floor

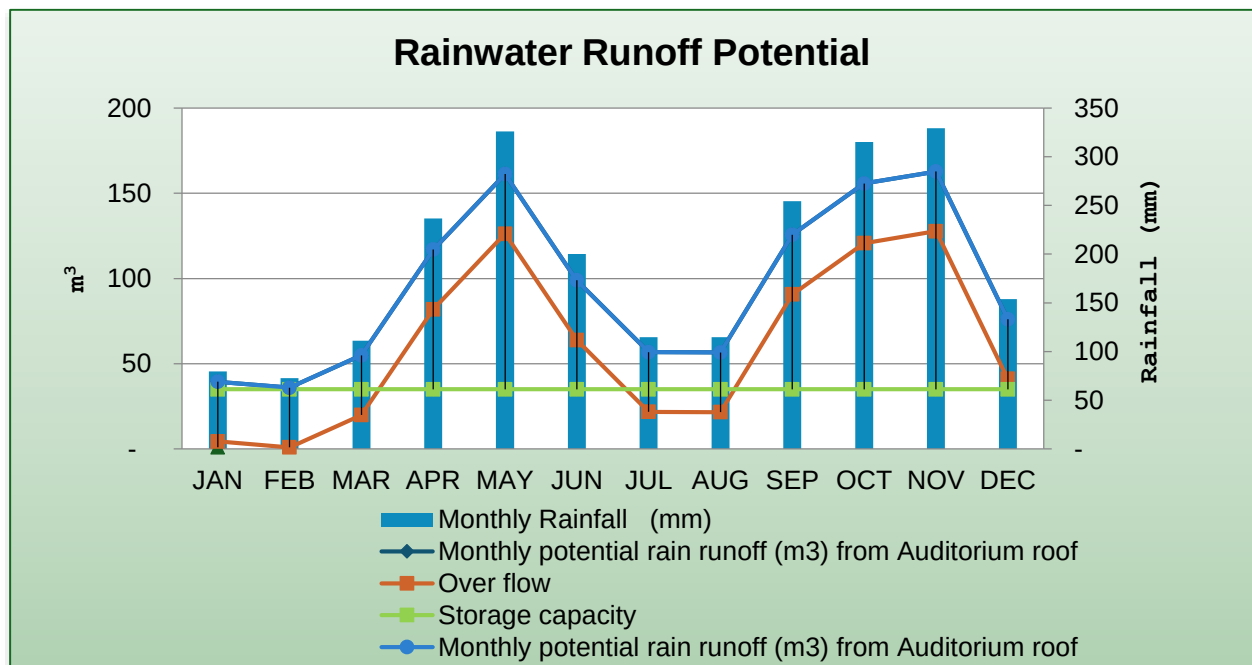
Average Monthly Rainfall



Source: Meteorological Department, Sri Lanka

Potential Monthly Roof Run off from the Auditorium Roof

Months	Monthly Rainfall (mm)	Monthly potential rain runoff (m3) from Auditorium roof	Storage capacity (m ³)	Over flow (m ³)
JAN	80	39	35	4
FEB	73	36	35	1
MAR	111	55	35	20
APR	237	117	35	82
MAY	326	161	35	126
JUN	200	99	35	64
JUL	115	57	35	22
AUG	115	57	35	22
SEP	254	126	35	91
OCT	315	156	35	121
NOV	329	163	35	128
DEC	154	76	35	41
Total	2,308	1,141	420	721
Monthly Average m ³		176		60



Observation

Total annual rainwater potential from the auditorium roof is 1141 m³

Average monthly run off is 176 m³

Estimated landscaped area: 800–1,200 m²

Estimated Daily irrigation demand ≈ 5,000 L/day (5 m³/day)

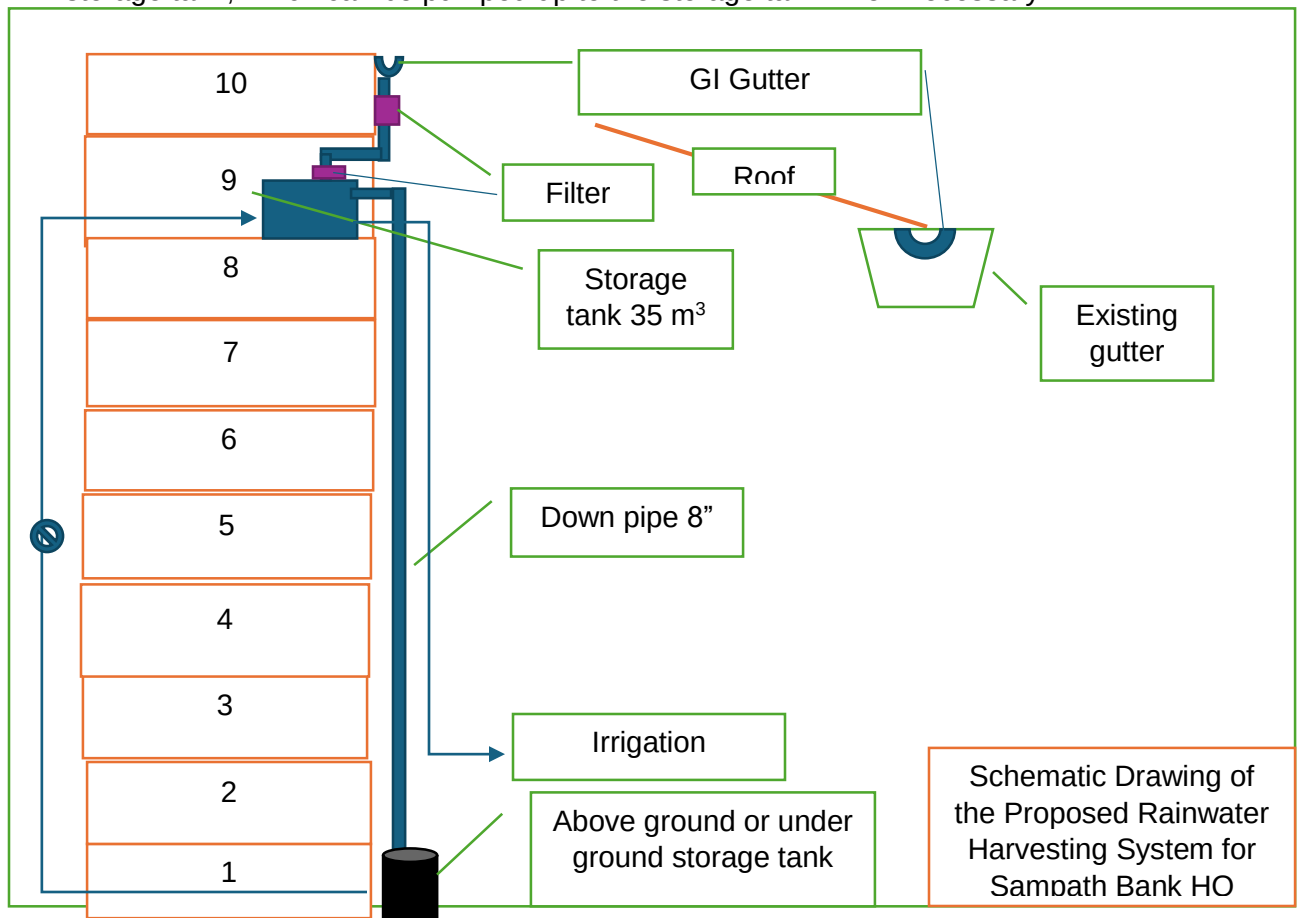
Monthly demand for irrigation is 150 m³

Mean annual dry spell length for Colombo is 3.8 days

Therefore the 35 m³ tank will provide gardening water for 7 dry days

Recommendation

1. Collect the auditorium roof rainwater run off through a gutter (100 mm depth) placed inside the existing concrete gutter, connect this through a down pipe into a storage tank on the 9th floor.
2. Either have a filter on the downpipe (Rainy filter- Annex 1) to remove debris from the roof (if any) or filter at the inlet to the tank.
3. Overflow from the tank should be connected to the down pipe.
4. Install an underground or above ground tank to store and collect overflow water from the storage tank, which can be pumped up to the storage tank when necessary.



5. Recommended gutter size for rainfall intensity of 150–200 mm/hour for Colombo is 250 mm wide × 150 mm deep box gutter.
6. Recommended down pipe size is 200 -225 mm (8 inch)

Estimated Budget

Activity	Description	Estimate cost LKR
1. Installation of gutters	Length 95 ft depth 250 mm wide × 150 mm deep box gutter.	300,000
2. Installation down pipe	8 inch pipe from 10 th floor (height from ground floor)	
3. Installing filter	Rainy filter on the down pipe or at the inlet of the tank	100,000
4. Installing of additional storage tank/s on the ground or above ground	Optional (recommended storage 60 m ³)	
5. Pump from additional storage to the 9 th floor storage	optional	
Total		

Annex 1 Rainy Filters (down pipe filter) imported from India, Rainy filter FL - 500 Diverter
<https://shop.rainyfilters.com/>



Salient Features	Technical Specifications
Self Cleaning Auto Flush Out Works on Gravity	Suitable for Area Upto 500 SQMTRS
Dual Intensity Withstands High Intensity Rainfall	Intensity of Rainfall 5 mm/Hour to 75 mm/Hour
Easy to Install 360° Rotatable	Filter Type Open ended, Non-clog
Low Maintenance High Efficiency Cost Effective	Working Principle Cohesive Force & Centrifugal Force
HDPE Material SS-304 Food Grade Material	Operating Pressure 1 foot of Gravity Head (0.060kg/cm ²)
	Max Discharge at (CWO) 480 Liters per minute
	Filter Element SS-304 Multi-Surface Screen - Food Grade
	Mesh Size 250 Microns
	Inlet Size 110 MM
	Clean Water Outlet size (CWO) 110 MM
	Drain Outlet size 110 MM
	Filter Housing UV Stabilized - HDPE
	Filter Efficiency Above 90%*
	Source of Power Gravity