

Rainwater Harvesting & Tank Sizing

Capture roof runoff for garden and household backup use

DIFFICULTY

Moderate

TYPE

One-off setup,
ongoing use

TIME

A weekend for a basic
setup

⦿

DIFFICULTY

Moderate

🕒

TIME

1–2 days setup

💰

COST

Moderate–high

☀️

BEST SEASON

Set up any time

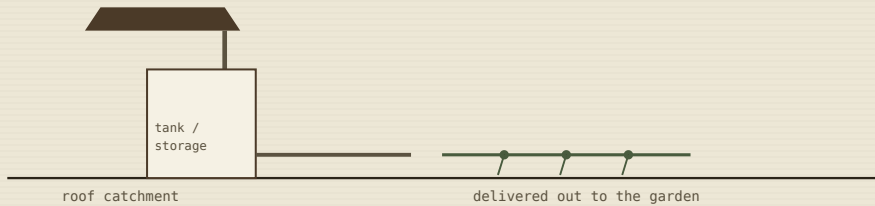
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FREQUENCY

Passive once installed

01 Roof to tank to garden

A basic system is simple: roof catchment, gutters, a first-flush diverter to discard the initial dirty runoff, then the tank itself, with an outlet feeding the garden or household use.



02 What you'll need

- A tank sized to your roof area and rainfall
- Gutters and downpipes in good condition
- A first-flush diverter
- A leaf/debris screen
- A pump if water needs to be pressurised for use

03 Method

1. Calculate roughly available water: $\text{roof area (m}^2\text{)} \times \text{rainfall (mm)} \times 0.8$ (accounting for losses) = litres collectable per rain event.
2. Size the tank to your intended use — garden-only needs are much smaller than full household backup.
3. Install gutter screens to keep leaves and debris out.
4. Fit a first-flush diverter so the initial dirty runoff from the roof doesn't enter the tank.
5. Connect the tank outlet to garden taps directly (gravity) or via a pump for pressurised use.

04 Troubleshooting

- **Tank empties faster than expected** — check for leaks, or recalculate actual usage against catchment.
- **Poor water quality** — check gutter screens and first-flush diverter are working, and that the roof material is suitable for water collection.
- **Mosquitoes breeding in the tank** — ensure all inlets and the tank itself are properly screened and sealed.
- **Low pressure at outlets** — a gravity-fed system depends on tank height; a small pump solves this for most household uses.

05 Timing & maintenance

BEST TIME	Install before the wettest season in your region so the tank can fill from the start.
DURATION	A basic setup can be done in a weekend; larger systems with pumps and plumbing take longer.
MAINTENANCE	Clean gutter screens and first-flush diverters a few times a year; check the tank for sediment periodically.
SIGNS OF SUCCESS	Consistent water availability through dry spells, without running the tank dry between rain events.

06 Tips & variations

PAIRS WELL WITH	COMMON MISTAKES	PRO TIP
Drip Irrigation Setup Greywater Systems	Undersizing the tank for the intended use Skipping the first-flush diverter, leading to poor water quality	Even a modest tank dramatically reduces mains water use for the vegetable garden — you don't need to capture 100% of runoff to make a real difference.