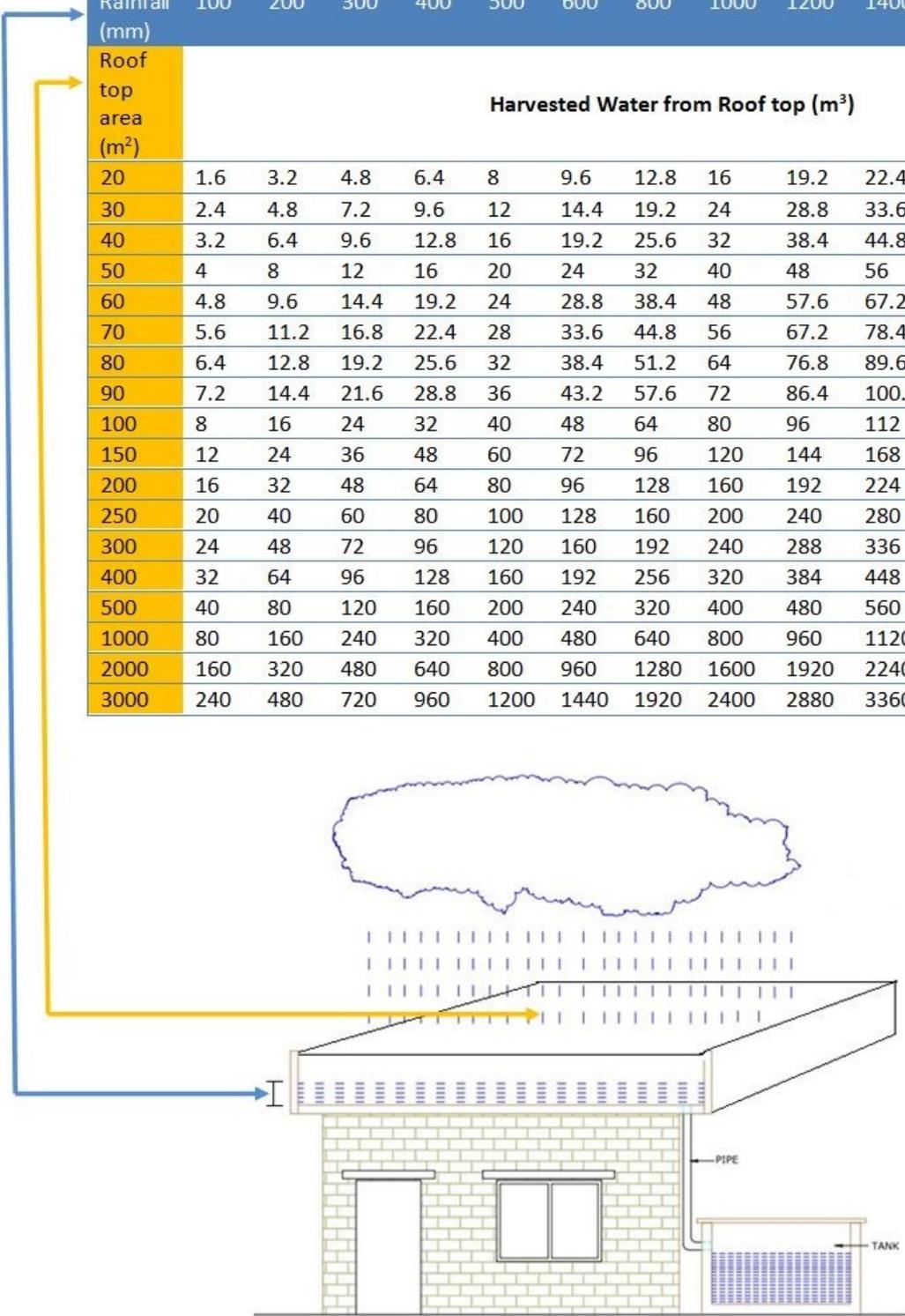


छत के रेन वॉटर हार्वेस्टिंग सिस्टम की डिजाइन

(Source: Manual on Artificial Recharge of Ground Water, Central Water Commission, Ministry of Water Resources, Govt. of India, September, 2007)

A-छत से वर्षा जल संचयन के लिए वर्षा जल की उपलब्धता

| Rainfall (mm) | 100 | 200 | 300 | 400 | 500 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
|---------------------------------|---|------|------|------|------|------|------|------|------|-------|-------|-------|------|
| Roof top area (m ²) | Harvested Water from Roof top (m ³) | | | | | | | | | | | | |
| 20 | 1.6 | 3.2 | 4.8 | 6.4 | 8 | 9.6 | 12.8 | 16 | 19.2 | 22.4 | 25.6 | 28.8 | 32 |
| 30 | 2.4 | 4.8 | 7.2 | 9.6 | 12 | 14.4 | 19.2 | 24 | 28.8 | 33.6 | 38.4 | 43.2 | 48 |
| 40 | 3.2 | 6.4 | 9.6 | 12.8 | 16 | 19.2 | 25.6 | 32 | 38.4 | 44.8 | 51.2 | 57.6 | 64 |
| 50 | 4 | 8 | 12 | 16 | 20 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 |
| 60 | 4.8 | 9.6 | 14.4 | 19.2 | 24 | 28.8 | 38.4 | 48 | 57.6 | 67.2 | 76.8 | 86.4 | 96 |
| 70 | 5.6 | 11.2 | 16.8 | 22.4 | 28 | 33.6 | 44.8 | 56 | 67.2 | 78.4 | 89.6 | 100.8 | 112 |
| 80 | 6.4 | 12.8 | 19.2 | 25.6 | 32 | 38.4 | 51.2 | 64 | 76.8 | 89.6 | 102.4 | 115.2 | 128 |
| 90 | 7.2 | 14.4 | 21.6 | 28.8 | 36 | 43.2 | 57.6 | 72 | 86.4 | 100.8 | 115.2 | 129.6 | 144 |
| 100 | 8 | 16 | 24 | 32 | 40 | 48 | 64 | 80 | 96 | 112 | 128 | 144 | 160 |
| 150 | 12 | 24 | 36 | 48 | 60 | 72 | 96 | 120 | 144 | 168 | 192 | 216 | 240 |
| 200 | 16 | 32 | 48 | 64 | 80 | 96 | 128 | 160 | 192 | 224 | 256 | 288 | 320 |
| 250 | 20 | 40 | 60 | 80 | 100 | 128 | 160 | 200 | 240 | 280 | 320 | 360 | 400 |
| 300 | 24 | 48 | 72 | 96 | 120 | 160 | 192 | 240 | 288 | 336 | 384 | 432 | 480 |
| 400 | 32 | 64 | 96 | 128 | 160 | 192 | 256 | 320 | 384 | 448 | 512 | 576 | 640 |
| 500 | 40 | 80 | 120 | 160 | 200 | 240 | 320 | 400 | 480 | 560 | 640 | 720 | 800 |
| 1000 | 80 | 160 | 240 | 320 | 400 | 480 | 640 | 800 | 960 | 1120 | 1280 | 1440 | 1600 |
| 2000 | 160 | 320 | 480 | 640 | 800 | 960 | 1280 | 1600 | 1920 | 2240 | 2560 | 2880 | 3200 |
| 3000 | 240 | 480 | 720 | 960 | 1200 | 1440 | 1920 | 2400 | 2880 | 3360 | 3840 | 4320 | 4800 |



B-छत से पीक प्रवाह की गणना

| Rainfall Intensity mm/hr for 20 min | 50 (min) | 100 (min) | 150 (min) | 200 (min) |
|---|---|--------------|--------------|--------------|
| Roof top area Sq m | Peak flow in $\times 10^{-3}$ m ³ /s (lps) | | | |
| 20 | 0.28 | 0.56 | 0.87 | 1.11 |
| 30 | 0.42 | 0.83 | 1.25 | 1.67 |
| 40 | 0.56 | 1.11 | 1.67 | 2.22 |
| 50 | 0.69 | 1.39 | 2.08 | 2.78 |
| 60 | 0.83 | 1.67 | 2.50 | 3.33 |
| 70 | 0.97 | 1.94 | 2.92 | 3.89 |
| 80 | 1.11 | 2.22 | 3.33 | 4.44 |
| 100 | 1.39 | 2.78 | 4.17 | 5.55 |
| 200 | 2.78 | 5.56 | 8.33 | 11.11 |
| 500 | 6.95 | 13.89 | 20.83 | 27.78 |
| 1000 | 13.92 | 27.78 | 41.67 | 55.55 |

C. टैंक का आकार

| Tank Capacity (in m ³) | Diameter of Tank (in m) |
|---------------------------------------|----------------------------|
| 1.60 | 1.21 |
| 2.40 | 1.48 |
| 3.20 | 1.71 |
| 4.00 | 1.91 |
| 4.80 | 2.09 |
| 5.60 | 2.26 |
| 6.40 | 2.41 |

| | |
|--------------|-------------|
| 7.20 | 2.56 |
| 8.00 | 2.70 |
| 9.60 | 2.95 |
| 11.20 | 3.19 |
| 12.00 | 3.30 |
| 12.80 | 3.41 |
| 14.40 | 3.62 |
| 16.00 | 3.81 |
| 16.80 | 3.91 |
| 19.20 | 4.18 |
| 20.00 | 4.26 |

नोट: ग्रामीण क्षेत्रों के लिए, टैंक का व्यास 3 मीटर तक सीमित हो सकता है। टैंक 6 महीने के लिए 5 सदस्यों के परिवार के पेयजल आवश्यकताओं को पूरा करने के लिए पर्याप्त होगा। बड़े भंडारण के लिए, एक बड़े टैंक के बजाय दो या अधिक टैंक उपलब्ध कराए जा सकते हैं।

अगला अध्याय >>
कैसे घर पर वर्षा जल संचयन प्रणाली बनाए