

Presented at



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HARNESSING RAINDROPS

Amaidhi homes

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SDA



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- Types of Rainwater Harvesting Systems
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Amaidhi

- Located in Elagiri at an altitude of 1050 m
- Avg. annual rain fall 900mm
- 12 vacation homes on 2.5 acres of undivided land

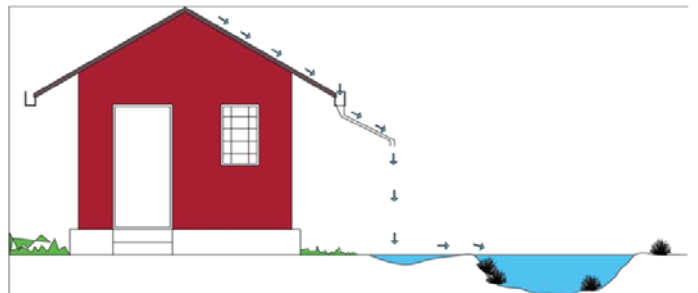


Types of Rainwater harvesting systems



Active system

uses pipes, tanks and pumps to collect and reuse the water



Passive system

uses infiltration, replenishes aquifers with soil as a storage reservoir

Passive rain water harvesting for Amaidhi



Expected amount of rain water

- 1770 m³ from all the roofs
- 4030 m³ from road, paved areas, gardens & rock outcrops

Projected cost of active system

- 12 lakh = 150 m³ water
- Additional for erosion control

Projected cost of passive system

- 10 lakh = 3500 m³ water
- Would take into account all runoffs

Implementation – passive rain water harvesting

- Slow down runoff, provide retention, increase infiltration



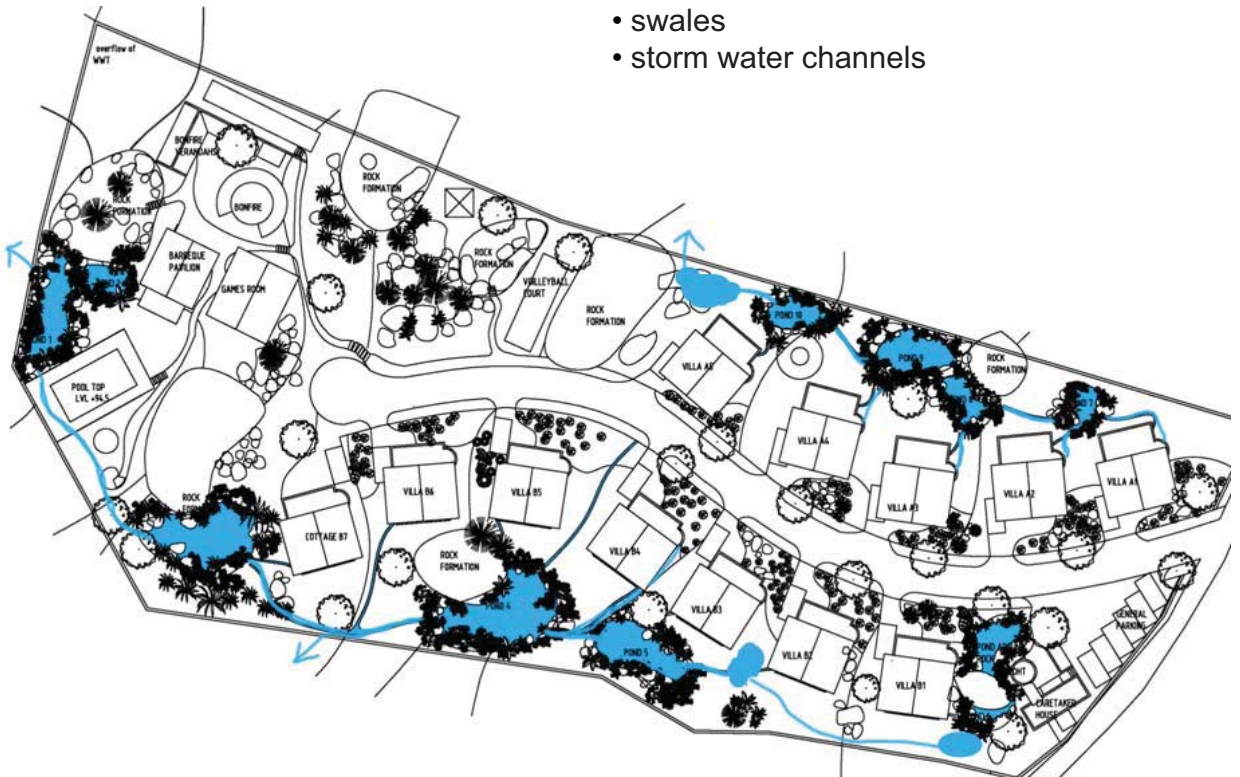
Implementation details - Catchment

- Gutters & spouts

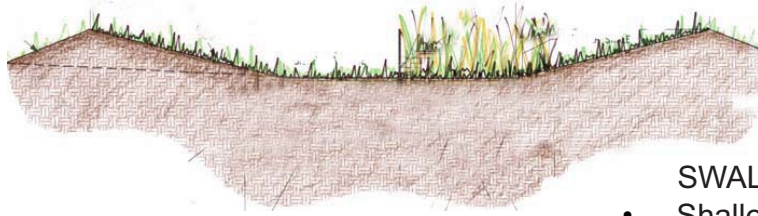


Implementation details - Conveyance

- swales
- storm water channels



Swales & Storm water channels



SWALES

- Shallow depressions in ground
- Planting filters water



STORM WATER CHANNELS

- Channels on road with concrete
- Directing water to the swales

Implementation details – Storage & infiltration

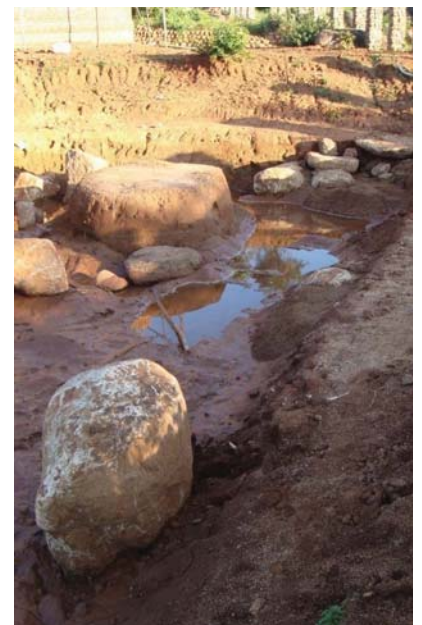
- totally 11 percolation ponds of varying sizes



RWH = catchment + conveyance + storage



Erosion around percolation ponds.



Erosion control around ponds



Conclusion

Salient points of a passive rain water harvesting system

- Cost effective
- Water purified by plants and microbes
- Groundwater is recharged
- Long-term solution to water management



The effectiveness of a rain water harvesting system lies in it's ability to meet the site specifics and end use preferences



The passive RWH system at Amaidhi is done in collaboration with Dirk Nagelschmidt, Paul Blanchflower and Ketty Gopinath

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