RAIN WATER HARVESTING PROJECT
COCA COLA, GURGAON

advit foundation

www.advit.org

Project Completion Report
February 2011

Implementation of Rain Water Harvesting Model

At Patio 1 and 2, Unitech Country Clubs, South City I and II, Gurgaon, Haryana

1.0 Background

Coca Cola as part of their CSR activities has been working towards being water neutral. Along with NGOs Coca Cola is implementing water harvesting structures and recharging groundwater in India. One of the organizations they have partnered with is Advit Foundation, to design and implement water harvesting systems.

Considered water harvesting community projects are Resident Welfare Associations (RWAs), Commercial buildings, Industrial complexes, Schools and revival of existing structures. Since the older establishments are under no legal obligation to install RWH systems support to them would extend to about 50-80% of the project cost besides technical and other assistance.

2.0 Activities Undertaken

- Selection of the programme partner site – Patio, Unitech Club.
- Study of building/ engineering drawings of the building
- Design of the water harvesting plan
- Analysis of the amount of water that will get recharged, and exploration of water reuse possibility
- Structure design approval from Ground Water Authority, Govt. of India
- Implementation of Project on approval by Coca Cola Inc., India.
- Facilitate maintenance of the structure along with the Programme Partner for 3 years.

3.0 Project Status

Water harvesting structures have been constructed at the Unitech clubs with support from Coca Cola. There are three structures which have been made at two sites – Patio 1 and Patio 2 Unitech Country Clubs in South City, Gurgaon.

Design – Structure 1 (Patio 1)

The catchment area of this structure is 2250 sq. m. The water from the catchment will be collected in a desilting cum storage chamber. The excess water after desilting will go in a soak pit for recharging the ground water. The design parameters are given below.

Catchment Area	=	45.0 m x 50.0 m = 2250.0 sq.m.
Average Annual Rainfall	=	772.0 mm
Max. Expected Rainfall during a Day	=	35.0 mm
Amount of Water to be Harvested (75% of total annual rainfall over the catchment area)	=	13,02,750.0 liters/year

Max Amount of Water Available for Harvesting during a rainy day = 78,750.0 Liters
Maximum Required Capacity of Desilting Chamber & Soak Pit (approx 45% of the max rainfall during a rainy day) = 35,000 Liters

Size of the Desilting/Storage Chamber	=	3.0 m x 2.0 m x 3.0 m
Size of the Soak Pit	=	3.0 m x 2.0 m x 3.0 m

Construction Status: The structure is complete. The filtration system is in place and the pipes have been connected to make it functional. The stones have been paved on the top and only two openings are left as seen in the picture on the right.

Design – Structure 2 (Patio 1)

The catchment area of this structure is 4250 sq. m. The water from the catchment will be collected in a desilting cum storage chamber. The excess water after desilting will go in a soak pit, which has a 4 inch bore well to recharge the ground water. The design parameters are given below and the drawing showing the plan is attached as Annexure-1.

Catchment Area	=	85.0 m x 50.0 m = 4250.0 sq.m.
Average Annual Rainfall	=	772.0 mm
Max. Expected Rainfall during a Day	=	35 mm
Amount of Water to be Harvested (75% of the total annual rainfall over the catchment area)	=	24,60,750.0 liters/year

Max Amount of Water Available for Harvesting during a rainy day = 1,48,750.0 liters
Maximum Required Capacity of Desilting Chamber & Soak Pit (approx 45% of the max rainfall during a rainy day) = 65,000.0 liters

Size of the Desilting/Storage Chamber	=	3.25 m x 2.5 m x 4.0 m
Size of the Soak Pit	=	3.25 m x 2.5 m x 4.0 m
Diameter of Bore well with 0.06 inch slotted pipe	=	4.0 inches

Construction Status: The structure is complete.

Patio 1: Completed Structure with boring

Design – Structure 1 (Patio 2)

Catchment Area Calculation:

1. Roof tops – 35.0 x 30.0 = 1050 sq. m.
2. Ground surface (lawn, playground, etc) – 82.0 x 54.0 = 4428.0 sq. m.

Total Catchment Area – 5478.0 sq. m.

Average Annual Rainfall	=	772.0 mm
Max. Expected Rainfall during a Day	=	35 mm
Amount of Water to be Harvested (70% of the total annual rainfall over the catchment area)	=	29,60,310.0 liters/year

Max Amount of Water Available for Harvesting during a rainy day = 1,91,730.0 liters

Maximum Required Capacity of Desilting Chamber & Soak Pit (approx 45% of the max rainfall during a rainy day)	=	86,280.0 liters
Size of the Desilting/Storage Chamber	=	3.5 m x 3.5 m x 4.0 m
Size of the Soak Pit/ Recharge Chamber	=	3.5 m x 3.5 m x 4.0 m
Diameter of Bore well with 0.06 inch slotted pipe	=	4.0 inches

Construction Status: The construction is complete. It is located in the parking space of the club.

Water harvesting pits: 2 covers seen above

4.0 Cost Details

Unitech - Patio 1

Total Project Cost	Rs.3,67,785/-
Company's Contribution	Rs.2,57,450 /- (Comprising of 70 % of the total project cost)
Principal Beneficiary'sContribution	Rs 1,10,335/- (Comprising of 30 % of the total project cost)

Unitech - Patio 2

Total Project Cost	Rs. 2,87,100/-
Company's Contribution	Rs.2,00,970 /- (Comprising of 70 % of the total project cost)
Principal Beneficiary's Contribution	Rs 86,130/- (Comprising of 30 % of the total project cost)

From the total company contribution (Enrich Agro) for Patio 1 and Patio 2 i.e. Rs 4,58,420 – Advit Foundation has received 50 percent advance amounting to 2,29,210. The balance is payable after completion.