

REPORT ON THE TWO-DAY TRAINING PROGRAMME FOR BUILDERS, ENGINEERS AND ARCHITECTS

A two-day training programme was organised by the Centre for Science and Environment (CSE) for builders, engineers and architects on August 13-14, 2002. Though this group forms the backbone of the construction industry, their involvement is marginal in the entire process popularising and implementing of rainwater harvesting. This training programme was structured with two major objectives as listed below:

- 1) To impress and motivate this group to undertake rainwater harvesting
- 2) To impart technical know how on rainwater harvesting

THE PARTICIPANTS: Twenty-four professionals from construction companies, architectural firms, engineering consultancies, government agencies like Military Engineering Services, educational institutions and non-governmental organisations attended this programme.

Table 1: List of participants

BUILDERS AND CONSULTANTS	
Larsen and Tuobro	New Delhi
Nirman Consultants	New Delhi
Northern Sanitation	New Delhi
Milind Kulkarni Consulting Engineers (PVT) Limited	
Sushma Engineering and Construction Company	New Delhi
Ansal Housing and Construction Limited.	New Delhi
ARCHITECTS	
Suresh Goel and Associates	New Delhi
Manik Engineers	New Delhi
Dimension Architects	New Delhi
Atrium Design	New Delhi
Lines	Gurgaon
Roopam Mishra	New Delhi
Saurabh Popli	New Delhi
GOVERNMENT ORGANISATIONS	
Military Engineering Services	New Delhi
NON GOVERNMENT ORGANISATIONS	
Electronic Education and Technical Society	New Delhi
Centre for Environmental Education	Ahmedabad
EDUCATIONAL INSTITUTIONS	
The Delhi Public School Society	Haryana

RESOURCE PERSONS: Besides the CSE team following resource persons shared their knowledge and experiences with the participants

1. R. Jeya Kumar, Managing Director, Rajparis Civil Construction Limited, No: 162-B, Greams Lane Thousand Lights Chennai-6 Telephone: 044-8290038/8290566
2. Akshay Kaul, Landscape Architect, VASHRA, Masjid Moth, South Extension, New Delhi-49, 011-6836891
3. Ahmed Ali Khan, Executive Engineer, Jamia Hamdard University, Tughlakhabad, New Delhi-62

THE PROGRAMME: The deliberations on the first day primarily focussed on the planning and design aspects of rainwater harvesting. The day's programme started with a session *Dilli-o-*

Dilli, which discussed the traditional water harvesting practices in Delhi -- its present status and current water scenario. A presentation of the hydro-geological set up of Delhi was made by a CSE staff member, which was followed by the session on rainwater harvesting and artificial recharge.

Akshay Kaul, a leading landscape architect shared with participants some case studies of water harvesting-based landscaping. A practical session followed in the latter half of the day, wherein participants were each assigned two projects for planning and designing rainwater harvesting systems. One of the sites was an unbuilt area where participants prepared architectural designs and planned the water harvesting systems. These designs and estimates were presented at the end of the day.

The second day was mainly spent on preparing guidelines for implementation of rainwater harvesting techniques and evaluating the impact of rainwater harvesting. In order to appraise the participants of the impacts of rainwater harvesting, a visit to Jamia Hamdard University in Tughlakhabad and Panchsheel Park colony, two of the five model projects of CSE (the sites where CSE had been involved in design and monitoring of rainwater harvesting systems) was also arranged. This trip gave trainees an opportunity to interact with the citizens and engineers involved in the implementation of the projects. Their queries ranged from how citizens mobilised the community (in the case of Panchsheel Park) to how they managed financing the projects. Participants also experienced first hand the techniques adopted in each of these cases.

A session that appraised participants to various rainwater harvesting legislations soon followed. This session was aimed at making the group conversant with the plethora of laws on both rainwater harvesting and groundwater recharging. Thereafter, R Jeya Kumar, builder from Chennai who had been instrumental in propagating the concept of rainwater harvesting in his town, addressed the participants and talked about the role of builders in the whole process. He also talked about the benefits a builder can look forward to from such an initiative.

The enthusiastic response of participants makes CSE hopeful that this group would soon be playing a key role in spreading the message of rainwater harvesting, and becoming the agents of change.

Table 2 : Schedule

Day I: August 13, 2002

TIME	TOPIC
9:30-10:00	REGISTRATION
10:00- 10:15	ABOUT THE TRAINING PROGRAMME AND ITS RELEVANCE TO THE CONSTRUCTION INDUSTRY
10:15-12 :00	RAINWATER HARVESTING
	<ul style="list-style-type: none"> • AN OVER VIEW • FACTS AND FIGURES
12:00-12:30	RAINWATER HARVESTING TECHNIQUES
12:30-3:15	PLANNING AND DESIGNING OF A RAINWATER HARVESTING SYSTEM
12:30-1:00	PLANNING AND FOR A NEW RESIDENTIAL BUILDING AND AN EXISTING BUILDING
1:00-1:30	LANDSCAPE PLANNING AND RAINWATER HARVESTING
1:30-2:15	LUNCH BREAK
2:15-2:45	DESIGNING OF RAINWATER HARVESTING SYSTEM
2:45-3:15	COST ESTIMATION OF RAINWATER HARVESTING SYSTEMS
3:15-4:30	A GROUP ASSIGNMENT ON PLANNING AND DESIGNING OF RAINWATER HARVESTING
4:30-5:15	PRESENTATION BY PARTICIPANTS

DAY II: AUGUST 14, 2002

TIME	TOPIC
10:00-10:15	GUIDELINES FOR IMPLEMENTING RAINWATER HARVESTING SYSTEMS
10:15-10:40	INDICATORS FOR ASSESSING THE IMPACT OF RAINWATER HARVESTING
10:40-1:30	EXPOSURE VISITS TO SUCCESSFUL RAINWATER HARVESTING PROJECTS
1:30-2:15	LUNCH BREAK
2:15-3:15	CONSTRUCTION INDUSTRY AND URBAN RAINWATER HARVESTING
	<ul style="list-style-type: none">• CHENNAI EXPERIENCES-R JEYA KUMAR• DELHI EXPERIENCES-AHMED ALI KHAN, ENGINEER, JAMIA HAMDARD UNIVERSITY
3:15-4:00	LEGISLATIONS ON RAINWATER HARVESTING AND GROUNDWATER RECHARGE
4 :00-4:30	CONCLUDING SESSION

INFORMATION KIT: Literature on all the topics discussed during the two days was compiled in the form of a manual and was distributed to participants. The manual comprised of information on the traditional water harvesting systems of Delhi, the current water scenario, a technical manual on the techniques and designs procedures of urban rainwater harvesting, articles related to urban water harvesting from *Down To Earth* and "*Making Water Everybody's Business*", CSE's publication on policies and practices on rainwater harvesting.