

ENPHO - A Demonstration, Resource and Training Center

ENPHO has set up various water optimizing techniques like rainwater harvesting system, urine diversion dry toilet and wastewater treatment in its building. As a result of setting up these components and putting them into daily use, ENPHO has successfully established itself as a demonstration center for water optimisation techniques. ENPHO also has a sophisticated environmental analytical laboratory for investigation of water, air and soil quality and has developed water test kits.

Furthermore, it has established a resource center which is a hub for knowledge management, publicity, advocacy, documentation and dissemination of information about these techniques, about ENPHO activities and about current developments in the field of environment. This center also provides regular trainings and orientations with hands-on experience on environmental analysis and management. In addition, ENPHO provides supervision, support and resources to both national and international students. With its vast resources and competent human resources ENPHO has thus established itself as a resource and training center.



Resource Center



ENPHO Lab

Pilot & Demonstration Activity (PDA) is an initiative of Asian Development Bank (ADB) to promote effective water management policies and practices. ENPHO is implementing such initiatives with support from ADB/PDA and UN-HABITAT to demonstrate effective water management at local level.



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Integrated Urban Water & Wastewater Management

Environment & Public Health Organization A Demonstration, Resource and Training Center for Water Optimising Techniques



Promoting Effective Water Management Policies and Practices –
"Operational Research on Decentralised Wastewater Management and
its Dissemination" Pilot and Demonstration Activity.



Rainwater Harvesting

Rainwater has an immense potential as an alternate source of drinking water in many parts of Nepal. Kathmandu alone receives an average annual rainfall of 1600 mm. ENPHO building has about 170m² of roof catchment area with a potential to harvest about 272m³ of rainwater annually. Rainwater is collected in an underground tank with a capacity of 10m³. Excess rainwater, especially in the rainy seasons, is diverted to the dugwell for groundwater recharge.



Catchment area for rainwater harvesting



Groundwater recharge through dugwell

Urine Diversion Dry Toilet

ENPHO has installed a urine diversion dry toilet with a Chinese model pan. The faeces is collected in 50 liters bucket and urine in a 200 liters PVC tank. This toilet demonstrates the feasibility of implementing such a system in urban settings thereby saving water and recycling nutrients.



Urine diversion dry toilet with Chinese pan



Urine collection tank

Drinking Water Treatment

The collected rainwater, which is the main source of drinking water for ENPHO, is treated by Solar Water Disinfection (SODIS) technique and bio-sand filter before consumption.



SODIS



Bio-sand filter

Wastewater Treatment Plant for Recycling of Wastewater

ENPHO, with its 40 regular staff and a well equipped laboratory, produces about 1000 liters of wastewater daily. In order to recycle this wastewater for non potable purposes like flushing, cleaning vehicles, gardening, etc., a subsurface vertical flow type constructed wetland has been setup. The grey and black water is collected in a 500 liters settlement tank which passes to a 200 liters feeding tank and from there it is fed intermittently to a reed bed with an area of 18m².



Constructed wetland for wastewater treatment



Use of treated wastewater for cleaning of vehicles and toilet flushing

Recycling of wastewater and harvesting rainwater saves around Nrs. 4000 per month otherwise spent in buying water