



Guidelines on Harvesting Moisture from the Atmosphere

Harvesting moisture from the atmosphere refers to any water collected from the atmosphere from condensation of water vapor. This condensation can occur due to several reasons: temperature changes between night and day (that produces dew), availability of cold surfaces, side-effects of appliances and air conditioners (ACs) in homes and in factories and plants.

Moisture harvesting from cooling action of ACs is very suitable and easy to do in Karachi, where there is very little rain, but where the moisture content in the air is very high throughout the year.

WHO specifies 26 gallons per day per person including drinking, hygiene, washing, cooking and other domestic needs. We need about 1 gallon per day of drinking water which is about 3.78 liters. All the rest is for other uses in and around the house or homestead, and can be drastically reduced by cutting out wastage and careless habits.

Harvesting moisture from Air Conditioners

The cooling action of an AC causes the atmospheric moisture around the AC to condense and become water. This water falls onto concrete and evaporates back into the atmosphere. This water can be saved and used before it evaporates.

Harvesting moisture through ACs is simple to do and easy to install. The harvest will depend on the size of the AC, air temperature and humidity in the air. In Karachi which has a high degree of humidity from March to October, a two ton (check spelling) AC, operated for 8-10 hours a day, can harvest up to 4-6 Gallons of water.

Setting up the moisture harvesting system at homes

- Set up a tray on the outer unit of the AC at an angle to collect the moisture
- Install a drain pipe on the corner of the tray
- Set up a jerry can or bucket at the bottom to collect the moisture
- Connect the drain pipe with the jerry can or bucket
- Add this water to your water tank or use as needed



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Uses of collected water

- Gardening – trees, bushes, flowering plants, potted plants
- Vegetable growing, kitchen gardening, homestead agriculture
- Laundry, cleaning, washing
- Sanitation and hygiene
- Any other water use

How will this help improve water supply in a city

By harvesting moisture this way you can help in reducing your water consumption from the piped water system, have ready supply at home and conserve water at the same time. By drawing less from the city water system you will help others to get more.

Moisture harvested from the atmosphere is essentially distilled water and is fit for human consumption. Since it is mineral free, some mineralization may be required for producing a higher quality drinking water.