

ABSTRACT

Water is non-renewable natural resource which is constantly being used by humans and all other living organisms. Due to its constant consumption, world is at a threat of its shortage and Pakistan is one of those countries which are under chronic water stress. The situation of ground water in Lahore is alarming as ground water is decreasing one meter annually in the Lahore city. The present study was an attempt to conserve water at household level by introducing the use of recycled greywater for the purposes where use of fresh water can be replaced by low quality water without any harmful effects. A socio-economic survey conducted in Township, Lahore Metropolitan area revealed that people are not agree to use recycled water at household level but they have shown interest using recycled water for other alternatives i.e. car washing, agriculture, toilet flushing etc.

In order to test the contaminants present in greywater 75 samples were collected from the Township area Lahore and their chemical analysis was conducted in the PCRWR laboratory Lahore. Keeping in view chemical analysis of greywater, greywater recycling unit was constructed by the collaboration of Water Care Services Pakistan. In recycling unit sand filters, alum and activated charcoal were used to maintain TSS, EC, pH, DO, COD, BOD, T. Nitrogen, Nitrate, Ammonium, Sulphate, Hardness and microbial contents according to the standards defined by NEQS. Twenty samples were recycled using greywater recycling unit and their chemical analysis was performed. The recycled water results were compared with NEQS safe limits and it was concluded that using sand filter, potash alum and activated charcoal odourless, transparent and bacteria free water can be obtained at low cost and fresh water can be conserved by using recycled greywater in car washing, agriculture, toilet flushing etc.

Key : EC (electrical conductivity) DO (dissolve oxygen) COD (chemical oxygen demand) BOD (biological oxygen demand). NEQS(national environment quality standard)