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An integrated approach for sustainable pollution control at Vellore, Tamil Nadu

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Distinct land use forms in different areas have affected several levels in all ecosystems. With detailed scientific research it has been established that these environmental impacts can, however, be diminished with a view of sustainable development. One such integrated approach for sustainable development has been implemented for the first time in VIT, an educational institute in a district with an average annual rainfall and temperature of 971 mm and 27.9°C respectively. In a long-term planning in VIT, pollution prevention is recognized as a core part of sustainable development with inclusion of vegetation in the form of Woodstock and lake (both are man-made) as a first step to support a self sustainable environment in an educational system. In Vellore district, water has been reported to be contaminated with metal pollutants - cadmium and lead. Though VIT is part of such a contaminated area due to tannery effluents, the integrated approach has reduced the impact of pollution which is revealed by our simple pH analysis on the soil samples in VIT. 12 random samples were collected by the point method across VIT University campus. The VIT Lake and ground water samples showed the varying pH before rainfall of 7.69 to 8.31 respectively and after rainfall in November 2015 the pH was has increased ranging from 8.03±0.05 to 8.36±0.16 compared to the distilled (Positive control-7.90±0.12) and tap water (Negative control-7.87±0.036). The pH values recorded at VIT in comparison with the reported acidic pH in the grounds of metal pollution clearly substantiates that natural factors like vegetation (Woodstock) and rainfall are crucial for sustainable development in VIT. More factors have to be explored scientifically on the man-made ecosystem for sustainable development of the growing institution and ecosystem which will become a model strategy for human dominated areas.

Biography

V Sai Saraswathi has completed her M.Pharmacy (pharmaceutical Chemistry-specialization) from TN Dr. M. G. R Medical University, Chennai during the year 2007. Presently, she is working as an Assistant Professor (Sr) at VIT University, Vellore, INDIA. With passion, she delivers Environmental Science for engineering students for past 10 years. She has published nearly 15 papers in reputed journals. With greater interest, she has been serving as a Nature Club co-ordinator and presently working for various environmental issues.

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