International Journal of Agricultural Science and Research (IJASR)
ISSN(P): 2250-0057; ISSN(E): 2321-0087
Vol. 6, Issue 2, Apr 2016, 53-64

TRANS STELLAR
•Journal Publications •Research Consultancy

ASSESSING QUALITY AND QUANTIFICATION OF MUNICIPAL SEWAGE INFLOW INTO MANCHALAPUR TANK BASED ON PER CAPITA WATER CONSUMPTION AND RUNOFF ESTIMATION

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ABSTRACT

With growing concerns in India to curtail tank pollution load, such approach must have initial processes of quantifying inflow into tank and assessing their quality to inform any real-time decision making. In this study, the Manchalapur tank system, a disposal point of sewage from Raichur was considered. The inflow into the tank system was considered to be both sewage and stormwater from the catchment of the tank. Hence, in quantifying the inflow, the per capita water supply of Raichur City was studied to estimate the sewage flowrate, and SCS curve number employed in estimating the rainfall runoff. During the rainy days, at expected dilution rate of 18.8% by stormwater, tank water degradation was minimal as compared to the pre-monsoon season when tank water was found unsuitable for reuse (as evidenced by Water Quality Index values). It is concluded that the sewage being received from Raichur city be treated before discharging into the tank. The results also straddle stakeholders including CMC to seek emerging and alternative technology to curtail any and such tank pollution within threshold.

KEYWORDS: Water Quality Index, Pollution Load, Tank System, SCS Curve Number, Water Supply, Manchalapur, Raichur City

Received: Feb 06, 2016; **Accepted:** Feb 18, 2016; **Published:** Feb 23, 2016; **Paper Id.:** IJASRAPR20168

Original Article