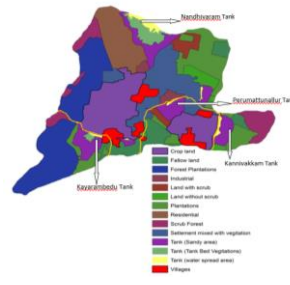
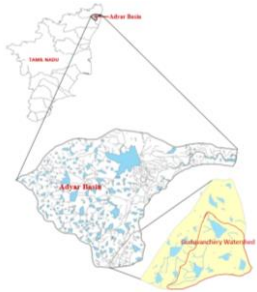
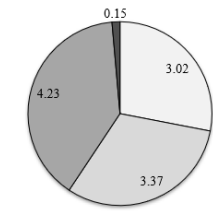
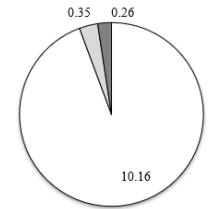
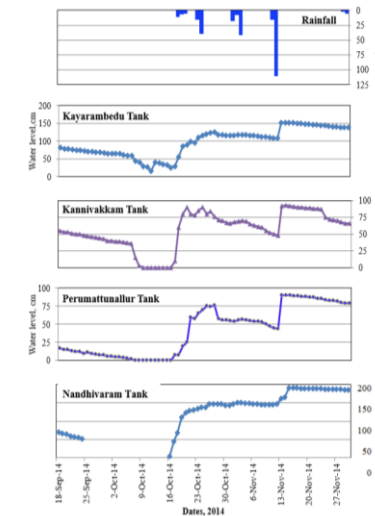


Hydrological modeling of chain of tanks to augment rural water supply for increasing Agricultural productivity

Dr. Marykutty Abraham and Dr. K. Venugopal



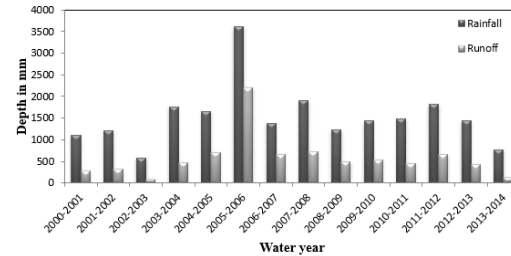
Land use category	Curve Number	Area (Hectares)
Forest Plantations/plantations	79	312.81
Scrub Forest	77	42.53
open space with good grass cover	80	43.27
Water bodies	89	91.38
Fallow land	84	87.70
Industrial area	93	24.60
Residential area	85	422.86
Land with scrub	77	33.33
Crop land	81	229.71



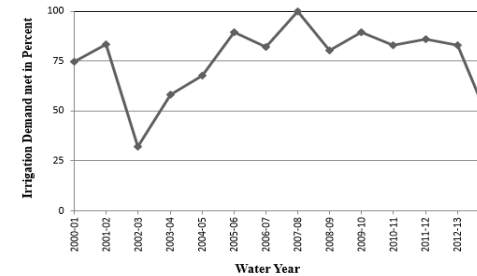
UNITS IN MCM

Daily rainfall and water level in the chain of tanks

Water availability and water utilization in the tank watershed



Annual Rainfall and Runoff



Irrigation demand met from Nandhivaram tank

CONCLUSIONS

- ❖ The applicability of NRCS - model for runoff computation with simulation modelling is useful for sustainable management of water resources of ungauged small watersheds.
- ❖ The water balance study for the chain of tanks showed that out of the total available water only 28% is used for irrigation and the rest is lost as evaporation loss, transition loss and spill from the tanks.
- ❖ It was found that there was around 5.46 MCM of surface water available in the watershed and apart from meeting the domestic requirement of 0.672 MCM in the watershed, additional demand due to future development and demand of adjoining areas can also be met if the available water is properly harvested.
- ❖ For semi-arid region, accurate estimation of runoff is essential for effective management and utilization of the available water resources