B-119: Salinity status of water resources in village tank farming system

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Presently, different water resources with diversed qualities are used for agriculture in village tank farming system. Hence, an experiment was conducted in the Maha Kanumulla Cascade in the Anuradhapura District particularly to investigate the salinity status of water resources in village tank farming system and to determine the spatial variation in water salinity. This was carried out during the period from October, 1997 to December 1997. For this purpose, water samples from rain, village tanks, domestic wells, agro-wells and tube wells were collected with 14 - day intervals and the samples were analysed for electrical conductivity (Ec) and corrected for 25°C values.

Results showed that mean Ec in rain, tank, domestic well, agro-well and tube well waters was 0.05, 0.28, 1.11, 1.6 and 1.6 dS/m respectively. It shows that ground waters are high in salinity. Further, spatial variation in salinity was also significant in ground waters as Ec in ground water resources ranged from 0.26 to

2.59 dS/m. This wide variation in water salinity shows that although ground water resources contain high salinity water in most cases, there are low salinity water pockets also.

This study reveals that ground water resources contain high salinity water in most cases, showing the limited applicability of such ground water for agriculture in village tank farming system in the dry zone. However, since there is a significant spatial variation in ground water salinity, this limitation can be mitigated by selecting low saline ground water pockets for extraction purpose.