HYDROLOGICAL PERSPECTIVE OF VILLAGE TANKS

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A case study was carried out at Paindikulama (Anuradhapura District) to study the hydrological behaviour of village tanks during the period from 1985 to 1989. The study was mainly in the form of tank water balance. The study was extended to two other tanks for comparison.

Results of analysis show that the percent runoff from the tank catchment varies widely depending upon the seasonal rainfall. It was evident that once the initial requirement for moisture replenishment is met, 20 percent of maha rains and 15 percent of yala rains would flow into the tank. The direct rainfall contribution to the tank is about 25 percent maha season and 50 percent in yala season.

Rainfall probability analysis shows that the tank would gain 80 percent of the storage only once in 5 years. One third of the storage is expected once in 3 years. Thus, the expectation of cultivating the entire command area in every maha season is far remote.

Analysis shows that the storage half life of village tanks is in the range of 12-17 weeks indicating the inefficiency of storing water in village tanks for the successive seasons. Only about 40 percent of the total outflow moves into the command area through irrigation sluices while 60 percent is lost from tank seepage and evaporation.