

Somkiat Puttapivat 1993 : Study of Weekly Water Allocation Scheduling of Canal 1L Thabote Irrigation Project Changwat Chai Nat. Master of Engineering (Water Resources Engineering), Major Field Water Resources Engineering, Department of Water Resources Engineering. Thesis Advisor : Prof.Chalong Kirdpitugsa. 287 pages.

The weekly water scheduling is the method to forecast irrigation water requirement by using the existing data such as the weekly cropping area and the daily rainfall. These data will be used to forecast the irrigation area and the irrigation water requirement of the next week. When the time has come, the actual weekly cropping area and the actual daily rainfall will be further used to forecast the irrigation water requirement in the following weeks until the end of the cropping year.

In this study, the mathematical models are developed. The models are composed of the weighted rainfall model, the effective rainfall model, the irrigation efficiency model and the forecasted irrigation area and the irrigation water requirement of the next week models. The study area is on the left bank of Suphan River, in Thabote Irrigation Project which has the 1L canal as main canal to supply the water to the area of 55,700 rai. The majority of crops is the broadcast rice. The weekly water requirement of 1L canal in 1991 wet season is calculated in advance by the above models.

From the result of this study, when the graphs of accumulative irrigation area and the theoretical water requirement of the forecasted and the monitored values are considered, it is found that every cropping activity is consistent with the designed cropping pattern. But the values from the graph of actually irrigated water are lower than the forecasted ones. This inconsistency may be from the error of cropping area data which was recorded from the field by sight. For the forecasted and monitored irrigation water, from the beginning of cropping activity until the irrigation area is fully cropped, the values are in close proximity. After that, these two values should be also proximate but in reality the values in some weeks are considerable different because of the difference between the weighted and the actual daily rainfall that will influence the irrigation water requirement. For example, in case that the quantity of the weighted rainfall appears much smaller than the actual quantity, it may indicate as if the irrigated water is over supply.