

ABSTRACT

OPTIMIZATION OF RICE FIELD CROPPING PATTERN IN WAY KETIBUNG IRRIGATION AREA AT SOUTH LAMPUNG DISTRICT

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Land use changing in Way Ketibung Irrigation Area from rice field cropping to rubber and palm oil planting were one of causes to decline rice field production at its irrigation area. The changing of land use were caused by lack of water availability . Therefore, it is necessary efforts to optimize irrigation area in order to increase rice production.

Based on cropping schedule which used by Way Ketibung Irrigation Area the farmer had define cropping season, rainy cropping season (rendeng, MT I) and dry cropping season (gadu, MT II). The 1st class of rainy cropping season was started on 1st week of September and on 1st week of January to the 1st class of dry cropping season. Whereas, the 2nd class of rainy season began on 2nd week of September and on 2nd week of January to the 2nd class of dry season. Cropping pattern which based on its cropping schedule that the farmers have done was not suitable, because only a few one could apply the schedule to crop rice field. It is due to the water availability could not serve the amount of water to its cropping pattern.

Field observation and hydrologic analysis using suitable approach methods produced the optimized cropping pattern that approximated by reliable discharge has 80 % probability in occurs (Q_{80}) and Net Farm Requirement (NFR). The optimized cropping pattern of Way Ketibung Irrigation Area defines the cropping season. The 1st class of rainy cropping season begins on 2nd December and 2nd April to 1st class of dry cropping season. Whereas, The 2nd class of rainy cropping season begins on 1st January and 1st May to 2st class of dry cropping season. Water balance analysis describe surplus and deficit of water, therefore could be generated cropping pattern rotation as; The rainy cropping season (MT I) : 1st class begin on 2nd week of December with 821 hectares (100 %), 2nd class begin on 1st week of January with 612 hectares (100 %). The dry cropping season (MT II) : 1st class begin on 2nd week of April with 50 % of 821 hectares, 2nd class begin on 1st week of May with 50 % of 612 hectares.

Key words : Way Ketibung Irrigation Area, rice field, reliable discharge, Net Farm Requirement (NFR), water balance, cropping season, cropping pattern.