Analisis spasial pola curah hujan dan produktfitas sawah tadah hujan di daerah aliran Sungai Citarum hulu

Bernardinus Realino S, author

Abstrak

Rice fields located in Citarum Hilir watershed of Karawang district are more and more affected by growth of residential and industrial areas. This resulted in the need to have supporting rice fields elsewhere including in the upstream region. ln Citarum Hulu watershed, 19,5% fiom the existing rice fields is non-irrigated with 32,l9% of population work in the agriculture sector. But productivity of' non-irrigated rice fields of Citanim Hulu watershed is still low, which is below 25 kwintal/ha. One of the efforts to increase its productivity is to look at the local climate model. The low productivity may also be caused by factors such as slope and altitude, which are used as variables in Wilayah Tanah Usaha (WTU). Sandy (1985) wrote that growth and death of any plant in Indonesia depend on water. Awarding to Chang (1968) every process in a plant is affected by water. Furthermore, FAO believed that the growth requirement of a rice plant is also depended on water availability. Mohr, Schimdt-Ferguson, and Oldeman made climate classifications based on rainfall in relation with plant needs of irrigation. Spatial climate model and planting time/season are important factors in management of non-irrigated rice fields in Citarum Hulu watershed. These rice fields are nou-unifonnly found in the center down to the south. Rice production varies from 22 to 4l kw/ha where the majority produces 30-40 kw/ha. Productivity model for the northem part is varied, and to the south is more stable with productivity of 30-40 kw/ha. The annual average rainfall in Citarum Hulu watershed is 1770-3458 mm/yr where the majority of the region has in the range of 2000-3000 mm/yr. Maximum monthly rainfall is 558 mm and a minimum of 6 mm on average. Rainfall is high in the months of November to April and dry period is fiom June to August. Mol-rr?s climate classification is around class III - Vb where the majority is in class III-IV. Schmidt-Ferguson?s climate classification for this area is type C to type A, where the majority is in the wet type (A). 0Ideman?s climate classification varies from D3 to Bl where the majority ofthe region is in climate group C-B (humid-wet). ln general, climate model for Citarum Hulu watershed is as follows: in the center (around the city of Bandung) is almost always drier than its surrounding areas, specifically in the northem and southem parts that are mountainous. The distribution of non-irrigated rice fields has a strong correlation with the annual rainfall model of Schimdt-Ferguson and Oldeman, because as an area has more precipitation there tend to be non-irrigated rice fields. But it is not true with Mohr climate. A strong correlation in productivity of non-irrigated rice fields with rainfall model, Mohr, Schmidt-Ferguson, and Oldeman climate models mean that as a region receives more precipitation then 'there is a tendency of higher rice productivity. But there is also a tendency that if an area is extremely wet, the productivity will decrease. Planting season in the Citarum Hulu watershed is from October and May with 4 planting time models: October/February, October/March, November/March, and December/April. In the November/March, planting time is dominant in almost all of the watershed area. Part of the non-irrigated rice fields in Citarum Hulu watershed are still according to the WTU conception, that is 65,87%, which the majority is in the center. As for the rest of this region, they should be converted into protected forest areas (especially in the south) and hard plant agriculture (in the cast). Keywords: DAS Citarum Hulu, non-

irrigated rice fields, rainfall, climate model, Mohr, Schmidt-Ferguson, Oldeman, WTU conception, planting time.