

# **DELINIASI RISIKO IKLIM DAN EVALUASI MODEL HUBUNGAN CURAH HUJAN DAN PRODUKSI PADI DALAM Mendukung Pengembangan ASURANSI INDEKS IKLIM (*CLIMATE INDEX INSURANCE*) PADA SISTEM USAHATANI BERBASIS PADI**

## **(CLIMATE RISK DELINEATION AND EVALUATION OF RAINFALL AND RICE YIELD TO SUPPORT DEVELOPING OF CLIMATE INDEX INSURANCE)**

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### **ABSTRACT**

The agricultural sector, particularly the rice farming system (SUT) is very vulnerable to climate variability and change. SUT that rely heavily on water will be easily affected by climate variability and change when the water supply deficit of needs that should be. SUT is still dominant in the food supply in Indonesia, so the shock of farming due to extreme climate events will have a major impact on food security. Many findings indicate that the frequency and intensity of extreme climate events will increase as a result of global warming. Extreme climate events dominant occur in center of rice production in West Java like Indramayu is drought. Approximately 80% of the causes of the rice harvest failed in the district of Indramayu is the incidence of droughts. Farmers as the main actors receive large impacts due to drought is expected to be increasingly difficult to develop the farm. It is therefore necessary to have protection program for farmers from the impact of climate events such climate extrim. One option is starting a lot of feasibility is Climate Index Insurance. This study aimed to assess the feasibility of the implementation of the climate index insurance system in Indramayu. Analysis step is performed include (i) preparation of endemic drought maps are required as the basis in determining the priority areas of climate risk management and (ii) the determination of climate index value (threshold value) to be used as an index into the determination of the value of insurance claims. This study found that climate indices that can be used for the three villages at high risk of drought is high rainfall during the dry season. Index value for the three villages is 168 mm, 248 mm and 472 mm for Cikedung, Lelea and Terisi. Potential applications of Climate Index Insurance for rice SUT in Indramayu is high because about 90% of the people are rice farmers. Besides benefit of rice farming is also quite large with B/C from 1.4 to 1.8 during the wet season and 1.2 to 1.7 on the dry season, so the expected ability to pay insurance premiums high enough.

**Keywords:** Climate Index Insurance, drought, rice farming system.

### **ABSTRAK**

Sektor pertanian, khususnya sistem usahatani (SUT) padi sangat rentan terhadap keragaman dan perubahan iklim. SUT padi yang sangat mengandalkan air akan mudah terkena dampak keragaman dan perubahan iklim manakala pasokan air mengalami defisit dari kebutuhan yang seharusnya. SUT padi masih dominan dalam memasok kebutuhan pangan di Indonesia, sehingga guncangan terhadap usahatani akibat kejadian iklim ekstrim akan berdampak besar terhadap ketahanan pangan. Banyak temuan menunjukkan bahwa frekuensi dan intensitas kejadian iklim ekstrim akan meningkat akibat dari pemanasan global. Kejadian iklim ekstrim ang dominan terjadi di wilaya pusat produksi padi di Jawa Barat yaitu Indramayu aalah kekeringan. Sekitar 80% dari penyebab gagal panen padi di Kabupaten Indramayu ialah kejadian kekeringan. Petani sebagai pelaku utama menerima dampak besar akibat kekeringan diperkirakan akan semakin sulit untuk mengembangkan usahatani. Oleh karena itu perlu ada progam perlindungan bagi petani dari dampak kejadian iklim esktrim tersebut. Salah satu opsi yang saat ini sudah mulai banyak dikaji kelayakannya ialah system Asuransi Indeks Iklim (*Climate Index Insurance*). Penelitian ini ditujukan untuk menilai kelayakan pelaksanaan system asuransi indek iklim di Indramayu. Langkah analisis yang dilakukan meliputi (i) penyusunan peta

endemik kekeringan yang diperlukan sebagai dasar dalam penentuan wilayah prioritas pengelolaan risiko iklim dan (ii) penentuan nilai indeks iklim (*nilai threshold*) yang akan digunakan sebagai nilai indek penentuan klaim asuransi. Penelitian ini menemukan bahwa indeks iklim yang dapat digunakan untuk tiga desa yang berisiko tinggi terkena kekeringan ialah tinggi

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