APPRAISAL ANALYSIS OF IRRIGATION SYSTEM MANAGEMENT BASED ON SUSTAINABLE DEVELOPMENT CONCEPT IN TILONG IRRIGATION AREA OF KUPANG REGENCY

ABSTRACT

Irrigation system management is purposed to achieve sustainable irrigation system. The Sustainable concept of irrigation system appraisal was based on Sustainable Development Concept that has 3 pillars of Social, Economy and Environment. The three of these pillars has correlation one another, and the balancing of that three values are that sustainable condition. According to Ministry Regulation PU No.30/PRT/M/2007 about Management Manual of Partisipative Irrigation System. The irrigation system comprises of Irrigation infrastructure, Irrigation Water, Irrigation Management Institution and Human Resources. This research was combining the concepts of sustainability and irrigation system management.

According to research result of existing conditions, the physical of irrigation network > 50% unfunction, water supply for irrigation not yet fulfilling demand of irrigation, irrigation management unoptimal, most of Perkumpulan Petani Pemakai Air (P3A) have organizations not yet in good performance, field supervisor of main irrigation network less of personnel.

According to research result, there were 15 indicators of Tilong Irrigation System Sustainability. According to 6 experts opinions about comparison of interest level used calculation method of Analytical Hierarchy Process (AHP) thereby the indicator that has highest priority was Condition and Function of Irrigation Network with 0.125 weight while the lowest weight was OP levy with 0.023 weight. Indicator weight value used to give appraisal of DI. Tilong.

According to that research result for Sustainable Appraisal of Tilong Irrigation System was Sub DI VII in the Sustainable condition with fulfilling the value ≥ 23.33 in the three aspects, Sub DI V in the condition of Equitable with the value fulfilling social aspect 23.46 and economic aspect 23.36, Sub DI II in the Sustain condition of environment with environment aspect value fulfilling 24.06, Sub DI I in the Environment Sustain Condition with environment aspect value fulfilling 23.35, Sub DI III in the Social Sustain Condition with social aspect value fulfilling 23.37, Sub DI IV in the condition unsustain with the value of the three aspects were not fulfilling ≤ 23.33, Sub DI VI in the condition unsustain with the value of three aspects did not fulfilling ≤23, 33. Therefore there is needed any attention and improvement in the Sub DI that still no yet fulfilling the criteria of appraisal.

Keywords: Sustainable, Irrigation System, Sustainable Development, Multi Criteria Decision Making Method, Tilong.
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