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Ecological Effect Analysis in Determining Environmental Suitability for SEAWEED *Kappaphycus alvarezii* Farming in Levun Bay, Southeast Maluku

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Abstract : Farming seaweed *Kappaphycus alvarezii* in Levun bay, Southeast Maluku is important as the source of economic growth for its water areas' potentials which is optimal, productive and sustainable. The research was aimed to analyze the ecological effect in determining environmental suitability for seaweed *K. alvarezii* farming in Levun bay, Southeast Maluku. It used descriptive method with survey technique through field observation and laboratory tests. The analysis of data used GIS approach through measurement and scoring, environmental carrying and supporting capacity analysis. The results showed that Levun bay was potential for *K. alvarezii* farming as it was categorized as very suitable (S1) for $3,511 \times 10^3 \text{ m}^2$ or 351.1 ha (89.1 %) while the area categorized as suitable with conditions (S2) was $428 \times 10^3 \text{ m}^2$ or 42.8 ha (10,9 %) and not suitable class (N) was undetected or 0%. Environmental supporting capacity for seaweed farming with long line system was about 2,033 units at very suitable area (S1) and suitable with conditions was about 268 units.

Keywords : environmental suitability, supporting capacity, *Kappaphycus alvarezii*, ecological, GIS, water quality, seaweed farming.

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