



“Gheorghe Asachi” Technical University of Iasi, Romania



ECOSYSTEM SERVICES AND ENVIRONMENTAL BENEFIT VALUES ON KOMODO ISLAND AND PADAR ISLAND IN KOMODO NATIONAL PARK, INDONESIA

Irman Firmansyah^{1*}, Wayan Budiasa², Chaterina Agusta Paulus³, Dede Aulia Rahman⁴,
Tatan Sukwika⁵, Erwin Hermawan⁶, Casnan⁷

¹System Dynamics Center, Raya Pajajaran Street 16143, Bogor, Indonesia

²Department of Agricultural Economics, Faculty of Agriculture, Udayana University, Siulan Street 80361, Bali, Indonesia

³Department of Aquatic Resource Management, Faculty of Marine Affairs and Fisheries, Nusa Cendana University,
Adi Sucipto Street Penfui, 85001 Kupang, Indonesia

⁴Department of Tropical Biodiversity Conservation, Faculty of Forestry, IPB University,
Raya Dramaga Street 16680, Bogor, Indonesia

⁵Department of Environmental Engineering, Faculty of Engineering, Sahid –University Jakarta,
Prof. Dr. Soepomo Street 84 South Jakarta 12870, Jakarta, Indonesia

⁶Department of Technical Information, Faculty of Engineering, Ibn Khaldun –University,
Sholeh Iskandar Street 16162, Bogor, Indonesia

⁷Department of Mathematics Education, STKIP Muhammadiyah Kuningan, R.A Moertasih Soepomo Street 45511,
Kuningan, Indonesia

Abstract

Komodo National Park (KNP) has prioritized eight out of 20 existing ecosystem services. KNP follows the concept of conservation and educational tourism, where visitors can see wildlife and enjoy panoramic views. The negative impact of increasing visitor numbers is the reduction of ecosystem value and benefits. In this article, the expert-based in-depth discussion method is presented, which is complemented by the interpretive structural modelling and system dynamics method. In the weighting phase, the Analytical Hierarchy Process (AHP) and spatial analysis using the Geographic Information System (GIS) and a market valuation of ecosystem service benefits are used. The results of the analysis show that the lost value of ecosystem services will reach USD 727 million, while it will be USD 661 thousand if the number of visitors is limited. This value is considered feasible to achieve restoration while providing economic and sustainable benefits. The programme to increase the number of visitors must be integrated with the management of tourist attractions on other islands in Komodo National Park, Labuan Bajo, and West Manggarai by extending the length of visitors' stay.

Key words: ecotourism, ecosystem services, Komodo National Park, Komodo Island-Padar Island

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