

## ABSTRACT

**Yana Sofia Putri, IDN 4193141005 (2023). Development of Field Guidebook on The Topic of Mangrove in Tropical Ecology Course at Biology Department Universitas Negeri Medan.**

This study aims to produce a field guide book about mangroves in Lubuk Kertang that is suitable for use by undergraduate level (S1) students in the Tropical Ecology course. The type of research used is research and development (Research and Development) with the Thiagarajan (4D) development model which consists of the stages of definition, design, development and dissemination. The results of field research are used to develop book products. The field guidebook developed was validated by material expert lecturers, learning design experts, layout design experts, and assessed by Tropical Ecology course instructors and Biology students at Medan State University. The results of developing a field guidebook according to material experts consisting of material and presentation aspects obtained an average score of 85%, very good/decent criteria. Meanwhile, according to learning design experts, the average score was 95.6%, very good/decent criteria. Likewise, the graphic aspect of the book, according to layout design experts, received an average score of 100% with very good/decent criteria. Responses and responses to the book by course lecturers also showed very good/decent criteria with an overall percentage of 85%. The results of student trials were based on individual trials, small group tests and limited group tests with the percentages respectively being 97.78%, 94.17% and 91.33% with very good criteria. These results indicate that the field guide book developed is included in the qualifications of a very good/decent book. The effectiveness of this field guidebook can be seen from the gain value of 0.65 with medium criteria, and the t test results obtained were  $P = 0.000 < 0.05$ . It can be concluded that the use of the field guide book developed is effective in increasing students' knowledge about the mangrove ecosystem with significant differences in pretest and posttest scores so that the field guide book can be used as additional teaching material for lecturers, students and readers in general.

**Keywords** : Development, Field Guidebook, Mangrove, Tropical Ecology