F-4 Evaluation of biodiversity of reserved area in Asian-regions

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Conservation of biodiversity is one of the most significant global environmental issues. Because of rapid development in Asian countries, protection of endangered species and their habitats is a problem of great urgency. The objectives of this study are i) to quantify biodiversity and to build a database including lists of the animal and plant species present, endangered species present, and the distribution of their habitats, and ii) to apply GAP (Geographic Approach to Protection of Biodiversity) analytical approach in establishing a network system of reserves so that conservation and management efforts are promptly implemented. The database is expected to facilitate better management of nature reserves in line with biodiversity conservation programs. The GAP approach seeks to identify gaps in the proposed area that have high potential as wildlife habitat but have not been designated as reserves.

Merapoh, western part of Taman Negara in Malaysia was selected as a study site for GAP analysis. All the field surveys were conducted in this protected area and its surrounding area, mostly secondary forests. In 1998, a vegetation map was obtained through the analysis of various satellite images and basic GIS data on topography was made. We also carried out wildlife surveys in the area and obtained distribution data of 33 species of mammals and 43 bird species. The data showed apparent difference in species composition between primary and secondary forests.

Relationship between elephant dung and landform was analyzed by overlay of GIS analysis results. A rule was found that there is much elephant dung at hill near lowland. It was found that there was the relationship between elephant dung and landforms such as slope gradient, relief, ground level along the track. In section with a lot of dung, elevation was 180 to 250m, slope gradient was under 18 degrees and relief was under 30m. The more elephant dung was observed at the lower relief area, if the topographical conditions are of elevation 180 to 250m and of the slope gradient less than 18 degrees.