

NEW APPROACH IN IMPLEMENTING SUSTAINABLE AGRICULTURE

A Landscape dan Land Evaluation Perspective

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THE WAY TO GREEN

Focused study

1. Landscape Planning
2. Land Evaluation → on marginally land
(Mount Merapi Area and Coastal Area)





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Landscape
Planning

Mount
Merapi

Land use planning
based on the
gravity of disaster
prone areas

Coastal
Area

Landscape
Conservation based
on geomorphology





Land
Evaluation

Reclamation of land
influenced by Merapi
eruption

Reclamation of marginal
land in coastal area



Land Use Planning of Merapi Prone Disaster Area after 2010 Eruption

The results of the study recommended that the area within a radius less than 8 kilometers from the peak can be used as a conservation area in the form of forests and fodder grass cultivation. While the area within a radius 8 kilometers or more from the peak can be used as dry-land farming for food sovereignty of seasonal crops (corn, cassava, sweet potatoes and vegetables) and food sovereignty of animal (cattle and poultry farm).



Land use planning
after 2010 Merapi
Eruption



The Effect of Organic Matter Composition on Nitrate (NO_3^-) Leaching out from Sandy Coastal Soil

four sandy soil columns were treated by organic matter composition, the mentioned treatments were :

B0 (without organic matter);

B1 (Ratio of farmyard manure and rice straw, 1:1);

B2 (ratio of farmyard manure and rice straw, 1:2) and

B3 (ration of farmyard manure and rice straw, 1:3)

Each treatment was applied for dose of 10 ton/hectare. Each soil sample was fertilized by 135 kg N-Urea [$\text{CO}(\text{NH}_2)_2$] per hectare, and incubated for six weeks. Every week, the measurement of NO_3^- -leached were done to predict the influence of organic matter composition in increasing the capability of soil sample in holding the nitrogen compounds.



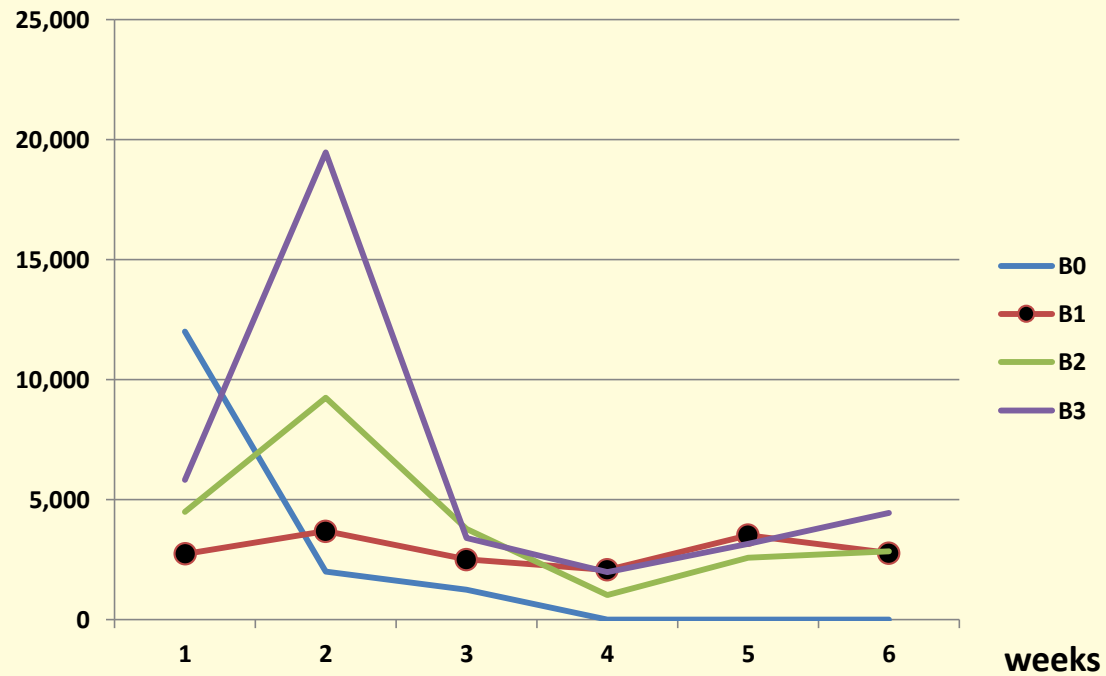
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The Effect of Organic Matter Composition on Nitrate (NO_3^-) Leaching out from Sandy Coastal Soil

Nitrate Leaching
(mg)



Landscape Zoning at South Coastal Area of Yogyakarta



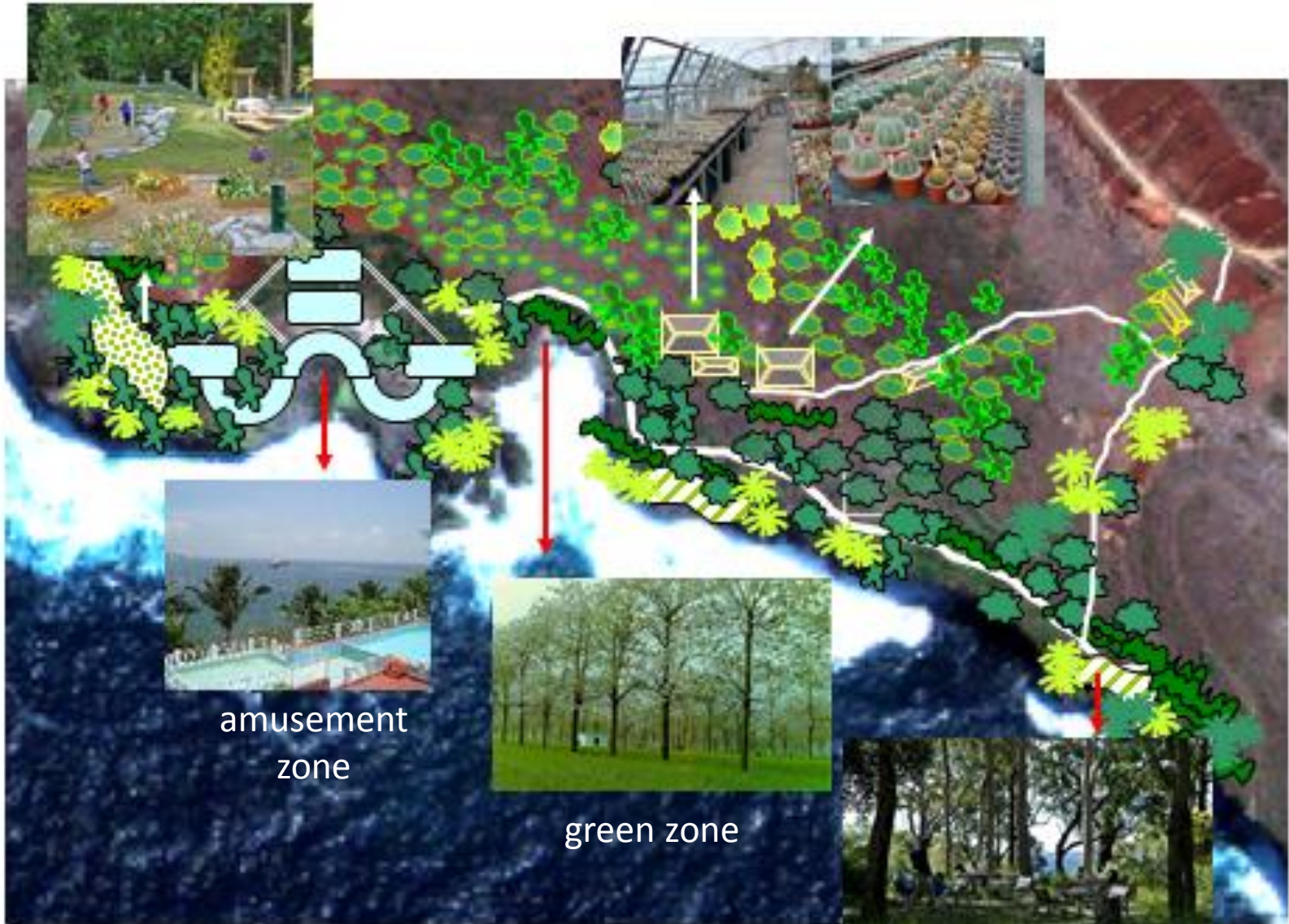
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play ground

nurseries



amusement
zone

green zone

Utilities Structure of Final Design

outbond area



Conservation Technology of Sand Dunes at Parangtritis Beach

Crescent sand dunes is one of the potential landscape of Parangtritis beach Bantul DIY, which has vista which is not owned by other beach attractions. Rows of sand dune that extends along the coast suffered erosion caused by wind-sea with north-west directions. This process resulted sand dune degradation and depositional process of sand particles to the land. One of wind erosion control is to use windbreaks to reduce wind speed, to capture sand particles and deflect the wind direction. Windbreaks plant was conducted at two points. In the area of sand dune adjacent to coastline, as well as reducing wind speed and deflect wind direction, and the area behind the sand dune (backdune) with the aim capturing and holding the creep of sand particles.

Sand dune conservation is becoming an important plan to be implemented. On the one hand, sand dune has the potential landscape which can still developed further, and on the other hand, sand dune can be a barrier savior of community behind these dunes. Parangtritis beach adjacent to the epicenter of the quake zone from both tectonic faults from Opak sesar and Indoaustralia-euroasia plate stretching in the southern island of Java. Sustainability and stability of sand dune can reduce tsunami attack caused by earthquake.

Keywords : crescent sand dunes, potential landscape, wind erosion, plant windbreaks.



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The Area of Parangtritis Beach and sand dune formation constructed by wind



Landscape Design in Conserving Sand dunes as a Vista Potency at Parangtritis Beach





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thank you

