

MINGGU V

Thursday, March 15, 2018

MATA KULIAH PILIHAN

MANAJEMEN JASA LANSKAP

ARL 333 : 2 (2-0) 2



DEPARTEMEN ARSITEKTUR LANSKAP
FAKULTAS PERTANIAN
INSTITUT PERTANIAN BOGOR
15 March 2018

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MATERI PERKULIAHAN

MG I – UTS

MG/TOPIK	URAIAN	TUGAS	DOSEN
I PENDAHULUAN Ruang Lingkup dan Definisi	Kontrak Perkuliahan; Ruang Lingkup dan Definisi Jasa Lanskap	Tugas Resensi	KAS
II MANAJEMEN JASA LANSKAP Management Plan & Jenis-jenis Jasa Lanskap	Jasa Ekosistem; Jasa Lingkungan; Jasa Lanskap	Tugas Resensi	KAS
III JASA LANSKAP: Keragaman Vegetasi dan Karbon Tersimpan	Horizontal dan Vertical Diversity Index Aboveground dan Belowground	Tugas Analisis	KAS
IV JASA LANSKAP: Manajemen Sumber Daya Air dan Udara	Kuantitas dan kualitas air Kuantitas dan kualitas udara	-	KAS
V JASA LANSKAP: Keindahan dan Kenyamanan Lanskap	Keindahan <i>terrestrial</i> dan <i>spatial</i> Nilai Kenyamanan Lanskap	Tugas Analisis	KAS
VI JASA LANSKAP: Lanskap Sejarah dan Budaya	Nilai Manfaat Lanskap Sejarah dan Budaya	Tugas Analisis	KAS
VII JASA LANSKAP: Agrowisata dan Agroforestri	Potensi Agrowisata dan Agroforestri	-	KAS
VIII UTS			

*) Pokok/Sub-pokok bahasan dapat berubah, disesuaikan dengan kasus yang sedang hangat didiskusikan.

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MATERI PERKULIAHAN

MG IX – UAS

MG/TOPIK	URAIAN	TUGAS	DOSEN
IX Coupling Landscape Ecology with Natural Landscape Management	Penjelasan tentang perubahan paradigma dan pendekatan dalam pengelolaan lanskap alami	-	SWI
X Landscape Structure and Multi-scale Management	Konsep dan studi kasus	Tugas makalah	SWI
XI Landscape Function and Cross-Boundary Management	Konsep dan studi kasus	Tugas makalah	SWI
XII Landscape Change and Adaptive Management	Konsep dan studi kasus	Tugas makalah	SWI
XIII Landscape Integrity and Integrated Management	Konsep dan studi kasus	Tugas makalah	SWI
XIV Review	Presentasi	-	SWI
XV Review	Presentasi	-	SWI
XVI UAS			

*) Pokok/Sub-pokok bahasan dapat berubah, disesuaikan dengan kasus yang sedang hangat didiskusikan.

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MG IV JASA LANSKAP: KEINDAHAN DAN KENYAMANAN LANSKAP



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CP MINGGU V

Mahasiswa mampu menilai, mengukur dan mengevaluasi

Keindahan Lanskap

dan

Kenyamanan Lanskap

sebagai Jasa Lanskap

15 March 2018

JASA KEINDAHAN LANSKAP

15 March 2018

BRI and SBE

Tujuan analisis:

1. Menganalisis indeks keindahan secara spasial
2. Menganalisis indeks keindahan secara terestrial
3. Menganalisis korelasi indeks keindahan secara spasial dan terestrial.





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BRI - Beautification Rate Index





1. **Testing 8 (eight)** variation criteria, i.e.:

1. Slope Variation	5. Naturalness
2. Relief Degree	6. Land Use Compatibility
3. Relief Contrast	7. Vegetation Strata Contrast
4. Land Use Concave	8. Internal Variation of Landscape Cohesiveness
2. **Weighting** being conducted spatially through satellite image for valuing landscape aesthetical quality.
3. Validating being tested through **Planner Preferences** level ($n > 60$; photos > 30) by using **Scenic Beautification Estimation (SBE)** method.

BRI - Beautification Rate Index

1. Slope Variation
 
2. Relief Degree
 
3. Relief Contrast
 
4. Land Use Concave
 

BRI - Beautification Rate Index

5. Naturalness
 
6. Land Use Compatibility
 
7. Vegetation Strata Contrast
 
8. Internal Variation of Landscape Cohesiveness
 

SCENIC BEAUTY ESTIMATION (SBE)

PHOTO 01

Source: Daniel and Boster (1976)

Rating	f	cf	cp	z
1	0	60	1.00	-
2	0	60	1.00	2.39
3	0	60	1.00	2.39
4	3	60	1.00	2.39
5	14	57	0.95	1.64
6	17	43	0.72	0.57
7	12	26	0.43	-0.17
8	12	14	0.23	-0.73
9	2	2	0.03	-1.83
10	0	0	0.00	-2.39
		Σz		4.27
		z		0.47
		SBE		47.26

N = 60
Estimation on 36 photos

If $cp = 1.00$ or $cp = 0.00$
 $cp = 1 - 1/(2N)$ or $cp = 1/(2N)$

SBE = $0.47 - z \text{ smallest } (0.00) \times 100$
= 47.26

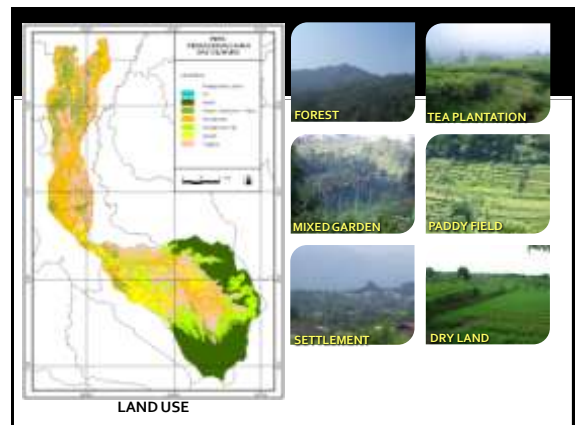
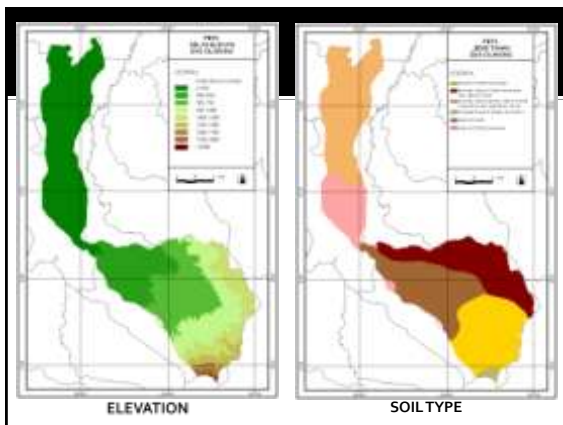
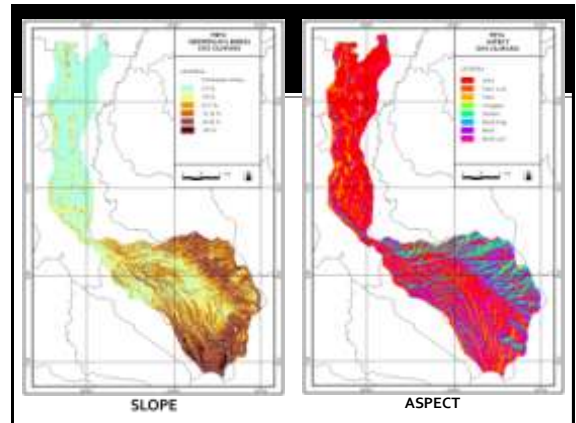
The SBE value being correlated to BRI and ARI value from Satellite Image

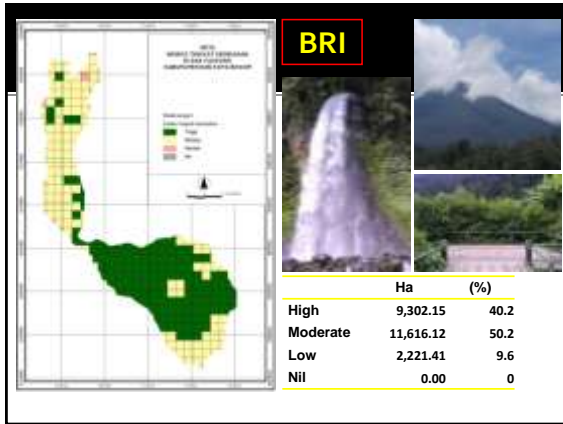
BRI - Beautification Rate Index			
Table of Beautification Variation Criteria			
No	Variation Criteria	Level	Weighted
1	Slope Variation (X1)	Slope > 45%	4
		Slope 25-45%	3
		Slope 8-25%	2
		Slope 0-8%	1
2	Relief Degree (X2)	Difference Contour 3	4
		Difference Contour 2	3
		Difference Contour 1	2
		Flat (without difference contour)	1
3	Relief Contrast (X3)	Type of aspect ≥ 5	4
		Type of aspect 4	3
		Type of aspect 3	2
		Type of aspect 2	1
4	Land Use Concave (X4)	Contour Line < 45°	4
		Contour Line 45°	3
		Contour Line 90°	2
		Contour Line 180°	1

BRI - Beautification Rate Index			
Continue Table BRI...			
No	Variation Criteria	Level	Weighted
5	Naturalness (X5)	Vegetation Cover > 75%	4
		Vegetation Cover 50 – 75%	3
		Vegetation Cover 25 – 50%	2
		Vegetation Cover < 25 %	1
6	Land Use Compatibility (X6)	Difference Land Use ≥ 4	4
		Difference Land Use 3	3
		Difference Land Use 2	2
		Same Land Use (=1)	1
7	Vegetation Strata Contrast (X7)	Type of Vegetation Strata ≥ 4	4
		Type of Vegetation Strata 3	3
		Type of Vegetation Strata 2	2
		Type of Vegetation Strata 1 / without Vegetation	1
8	Internal Variation Of Landscape Cohesiveness (X8)	Organic Mosaic Pattern	4
		Mixed Mosaic Pattern	3
		Geometric Mosaic Pattern	2
		Without Mosaic Pattern	1

Source: Brown & Itami (1982) and Munandar (1990)

RESULTS		
GENERAL CONDITION		
Condition	Upper	Middle
Slope	Steep	Hilly
Aspect	Various	Dominant to North
Elevation	> 300 m asl	< 300 m asl
Soil Type	5 types	2 types
Land Use	Various	Dominant Settlements





CORRELATION ANALYSIS BRI AND SBE

Correlation Analysis between *Scenic Beauty Estimation (SBE)* and *BRI*:

$$SBE = -16.24 + 21.35BRI$$

Analysis of SBE value and each criteria variation: Slope Variation (X₁), Relief Degree (X₂), Relief Contrast (X₃), Land Use Concave (X₄), Naturalness (X₅), Land Use Compatibility (X₆), Vegetation Strata Contrast (X₇), and Internal Variation of Landscape Cohesiveness (X₈).

$$SBE = -29.18 + 1.08X_1 + 1.61X_2 + 5.82X_3 + 0.37X_4 + 4.22X_5 + 2.55X_6 + 0.37X_7 + 1.63X_8$$

CORRELATION BETWEEN INTERNAL VARIATION AND SBE

Stepwise Regression Analysis between Internal Variation (X₁ to X₈) and SBE value which show the significant correlation

$$SBE = -6.32 + 12.74X_5 + 11.58X_6$$

This regression shows that two variation criteria are Naturalness (X₅) and Land Use Compatibility (X₆) which has positive impact to SBE

CORRELATION ANALYSIS BRI AND ARI

$$ITN = 1.34 + 0.61 ITI$$

JASA KENYAMANAN LANSKAP

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ARI – Amenity Rate Index

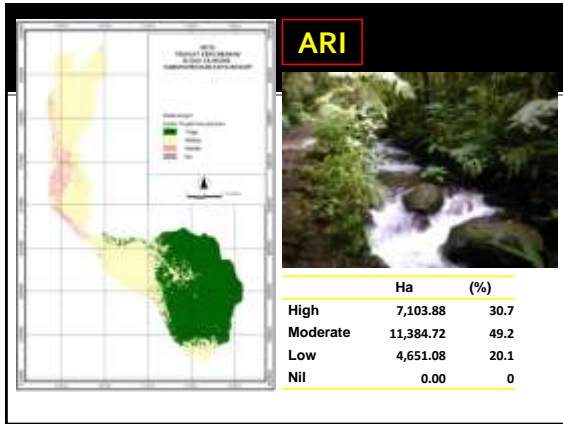
Table of Amenity Landscape Criteria

No	Amenity Factor	Level	Weighted
1	Air Temperature (AT)	Air Temperature 20-22 ° C	4
		Air Temperature 22-24 ° C	3
		Air Temperature 24-26 ° C	2
		Air Temperature 26-28 ° C	1
2	Relative Humidity (RH)	Relative Humidity 85-90%	4
		Relative Humidity 80-85%	3
		Relative Humidity 75-80%	2
		Relative Humidity 70-75%	1
3	Water Source Distance (WD)	Water Distance < 1 km	4
		Water Distance 1 - 2 km	3
		Water Distance 2 - 5 km	2
		Water Distance > 5 km	1

ARI – Amenity Rate Index

No	Amenity Factor	Level	Weighted
4	Land Cover (LC)	Forest	4
		Mixed Garden / Dry Land	3
		Paddy Field / Wet Land	2
		Settlement / Built-up Area	1
5	Slope (SL)	Slope 0-8%	4
		Slope 8-25%	3
		Slope 25-45%	2
		Slope > 45%	1
6	Elevation (EL)	Elevation 750 - 1250 m asl	4
		Elevation 250 - 750 m asl	3
		Elevation > 1250 m asl	2
		Elevation < 250 m asl	1

Source: Freitas (2002), Schiller (2001) and Sakaida (2003)



Comfortable Analysis

Introduction to ARCHITECTURAL SCIENCE
the basis of sustainable design

Steven V. Szokolay

Graphics assistance by Christopher Brisbin

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Linacre House, Jordan Hill, Oxford OX2 8DP
200 Wheeler Road, Burlington, MA01803
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Thermal Balance and Comfort

$M + R + C + E - \Delta S = 0$

where

- M = metabolic heat production
- R = net radiation exchange
- C = convection (incl. respiration)
- E = evaporation (incl. in respiration)
- ΔS = change in stored heat

A condition of equilibrium is that the sum (i.e. the S) is zero and such equilibrium is a precondition of thermal comfort. However, comfort is defined as **'the condition of mind that expresses satisfaction with the thermal environment, it requires subjective evaluation'**. This clearly embraces factors beyond the physical/physiological.

Fig. 1.17 Heat exchanges of the human body

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1.2.2 Factors of comfort

The variables that affect heat dissipation from the body (and thus also thermal comfort) can be grouped into three sets:

Environmental	Personal	Contributing factors
Air temperature	Metabolic rate (activity)	Food and drink
Air movement	Clothing	Body shape
Humidity	State of health	Subcutaneous fat
Radiation	Acclimatisation	Age and gender

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TUGAS ANALISIS

Hitunglah Nilai SBE dari 1 foto berikut

Resp	SKOR	Resp	SKOR	Resp	SKOR
1	8	11	8	21	7
2	7	12	9	22	8
3	6	13	8	23	6
4	6	14	8	24	9
5	8	15	7	25	7
6	7	16	7	26	8
7	8	17	7	27	6
8	9	18	6	28	8
9	8	19	8	29	9
10	9	20	10	30	6

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TERIMA KASIH

Atas perhatian dan kerjasamanya dalam tatap muka kali ini

SAMPAI JUMPA
PADA KULIAH MINGGU DEPAN

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