

Advances in Green Science, Engineering and Built Environment

Edited by
Md Azree Othuman Mydin

TTP TRANS TECH PUBLICATIONS

Advances in Green Science, Engineering and Built Environment

Selected, peer reviewed papers from the
International Conference on Science, Engineering
and Built Environments
(ICSEBS 2014),
November 24-27, 2014, Bali, Indonesia

Edited by

Md Azree Othuman Mydin



Applied Mechanics and Materials

ISSN: 1660-9336, ISSN/ISO: Applied Mechanics and Materials

Editors:

Publishing Editor: **Thomas Wohlbier**, 105 Springdale Lane, Millersville, PA 17551, USA, t.wohlbier@ttp.net

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Aims and Scope:

Applied Mechanics and Materials is a book series specialized in the rapid publication of proceedings of international conferences, workshops and symposia as well as state-of-the-art volumes on topics of current interest in all areas of mechanics and topics related to materials science.

Internet:

The periodical is available in full text via www.scientific.net

Subscription Information:

Irregular: approx. 80-100 volumes per year. First volume in 2015: Vol. 695

The subscription rate for web access is EUR 1089.00 per year.

Standing order price for print copies: 20% discount off list price plus postage charges.

ISSN print 1660-9336

ISSN cd 1660-9336

ISSN web 1662-7482

Trans Tech Publications Ltd

Churerstrasse 20 • 8808 Pfaffikon • Switzerland

Fax +41 (44) 922 10 33 • e-mail: ttp@ttp.net

<http://www.ttp.net>

<http://www.scientific.net>

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Trans Tech Publications Ltd
Churerstrasse 20
CH-8808 Pfaffikon
Switzerland
<http://www.ttp.net>

Volume 747 of
Applied Mechanics and Materials
ISSN print 1660-9336
ISSN cd 1660-9336
ISSN web 1662-7482

Full text available online at <http://www.scientific.net>

Distributed worldwide by

Trans Tech Publications Ltd
Churerstrasse 20
CH-8808 Pfaffikon
Switzerland

Fax: +41 (44) 922 10 33
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and in the Americas by

Trans Tech Publications Inc.
PO Box 699, May Street
Enfield, NH 03748
USA

Phone: +1 (603) 632-7377
Fax: +1 (603) 632-5611
e-mail: sales-usa@ttp.net

printed in Germany

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CHAPTER 1:

Architecture and Urban Planning in the Context of Built Environment

Visual Landscape Management of Scenic Peucang Island and Ujung Kulon Peninsula in Ujung Kulon National Park, Indonesia

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Keywords: visual landscape, visual quality, visual research management

Abstract. National Park consists of core zone, buffer zone and utilization zone. Utilization zone can be used for recreational activities. This area has an outstanding beauty, high visibility and natural values inevitably attract development which is the potential development of physical, social, visual which can support tourism activities. The base long term management plan of Ujung Kulon National Park (2001-2020) is maintaining its natural beauty and preserving the critical habitats. Scenic landscape quality and character must be included in the management plan because these factors are valuable resources in need of protection and management. This paper will discuss on study conducted to evaluate visual landscape for manage the scenic Peucang Island and Ujung Kulon Peninsula. The method comprehensive assessment in this research were used through Landscape Description and Classification, Visual Quality and Visual Resources Management. The result shown the scenic quality of UjungKulon Peninsula much better than Peucang Island. Area Cibom at Ujung Kulon Peninsula entered in the class 1 category including preservation in the management class however Cidaon and Peucang Island entered in the third class category including partial retention in the management class.

Introduction

Ujung Kulon National Park covering an area of 120.551 hectares consisting of 76,214 hectares of land and 44,337 hectares of marine waters. Can be broadly divided into three regions namely Triangles that make up the Ujung Kulon peninsula, Mount Honje region in east and Panaitan Island in the northwest peninsula of Ujung Kulon.

Ujung Kulon National Park is an interesting natural attractions, the beauty of the various forms of natural phenomena such as rivers with cascade rapids, waterfalls, white sand beaches, hot springs, marine parks and cultural heritage / history. They are all natural charm that is very interesting to visit and difficult to find elsewhere.

The national park is the west end of the National park area is famous in the world. National park has a core zone, buffer zone and the zone inside utilization. Utilization zone can be used for recreational activities. In reviews, these area has an outstanding beauty and high visibility and natural values inevitably attract development which is the potential development of physical, social, visual which can support tourism activities.

Some researchers have found that visual are aspect is very important in order to increase the tourism industry, for examples Allan (1983) supported with his statement ‘viewing scenery is an important sub component in recreational activity. The intangible “Amenity” value of scenery has often places it in priority below commodity values such as tourism development, scenery has become recognized as significant natural and recreational resources (Daniel et al 1989, Magill 1982).

The base long term management plan of Ujung Kulon National Park (2001-2020) is maintaining its natural beauty and preserving the critical habitats which prepare by Directorate

General of Forest Protection and Nature Conservation- the Ministry of Forestry. Scenic quality and landscape character must be included in management plan , because these factors are valuable resources in need of protection and management.

Furthermore this paper will discuss on study conducted to evaluate visual landscape for manage the scenic Peucang Island and Ujung Kulon Peninsula .



Figure 1. Ujung Kulon National Park (Source: <http://www.peucangisland.com/id/ujung-kulon-national-park.htm>)

Methodology

The survey was done at Peucang Island and Ujung Kulon Peninsula to get information for this research . Data collection for this research was divided into primary data and secondary data. The primary data were collected by doing take pictures and some observation in the site in 2013. These observation were also conducted to achieve the first objective of the research which is to determine visual quality . Secondary data were collected from centre of Ujung Kulon Nasional Park. The second objective of the research is to managed the visual quality in Peucang Island and Ujung Kulon Peninsula.

The method comprehensive assessment in these research were used through Landscape Description and classification, Visual Quality and Visual Resources Management. Visual Quality Analysis based on a modification of the Visual Resources Assessment Procedure (VRP) (Richard C.Smardon, James F, Palmer, Alfred Knof and Kate Grinde ,1988), Predication and assessment of visual impacts (Smardon,Plamer and Feleman 1986 written in the Environmental Impact Aassessment (Larry W.Canter 1996) is the sum of the variable water, land form, vegetation,land use, user activity and special consideration). To calculate the variable using a Likert scale as ordinal data with scale 1 – 3. (Distinct, Avarage,Minimal)

Scenic quality criteria : 1.Water, 2.Land Form,3.Vegetation, 4.Land use 5.User activity, 6.Special consideration : a. Does this zone contain any Cultural or Historical Landmarks ?, b. Is This zone, or areas within, know for its distinct visual quality and or wildlife observation, c. Is this zone free from pollution and litter ?, d. Are there other aesthetic elements that add to this resources

Level of Visual Quality

a.) Visual Resources assessment Procedure (VRAP) (Richard C. Smardon, james F. Palmer, Alfred Knof and Kate Grinde, 1988)

DISTINCT :

Something that is considered unique and is an asset to the areas. Its typically recognized as a visual / aesthetic asset and may have many positive attributes. Diversity and variety are characteristics in such a resources. (Unique, Diversity and variations of each variable)

AVERAGE:

Something that is common in the area and not known for its uniqueness, but rather is representative of typical landscape of the area. (General, representing the typical landscape of the region)

MINIMAL :

Something that maybe looked upon as a liability in the area. It is basically lacking any positive aesthetic attributes and may actually diminish the visual quality of surrounding areas.

(no value aesthetic)

View point assessment analysis based variable filled in accordance with the level of visual quality of each variables were obtained from the visual input resort.

Especially for special consideration: Total ** a) > 3 or more = Distinct, b) 1 – 2 = Average c) = Minimal.

b).Modification of Visual Resources assessment Procedure (VRAP)(Richard C. Smardon, James F. Palmer, Alfred Knof and Kate Grinde, 1988) , Prediction and Assessment of Visual Impacts (Smardon , Plamer and Felemeane 1986) in Environmental Impact Assessment book (Larry W.Canter 1996)

VALUE	WATER	LAND FORM	VEGETATION	LAND USE	USER ACTIVITY
3. DISTINCT	Resources 5 item Scale (lake >50 acres. Shoreline configuration, reflect major feauters, islands, shoreline vegetation or rock forms) Movement (streams , Falls, rapids, pools and meanders of large volume)	5 item or 60% slope(ridges or dominant features)or Bold hill, mountains	High degree of patterns in vegetation or Large old growth timber Diversity in plants species. Variety of vegetative interesting form, texture and pattern	5 item or Wilderness, Grazed	< 3
2. COMMON	Resources 3 Item Scale (lake 5 to 50 acres ; shoreline irregularly; minor reflection. Shoreline vegetation) Movement (streams . common meandering , flow characteristics	3 item or 30 – 60% slopes (moderately dissected or rolling) or Hill country Plateau up land	Continuous vegetative Mature but not outstanding old growth Or common diversity in plant species Some variety but only one or two types	3 item or Lumbering, forest, mixed recreation	<1
1.MINIMAL	Resources < 3 item Scale (lake <5 acres, No irregulry or reflection) Movement (stream, no flusion in flow or fsll, rspids or mesdering	< 3 item or 0 – 30 % slopes (little variety No dissection No dominant features) or low up land and low land	Continuous vegetative cover with little or no pattern. Or No understory, over story or ground cover. No variety or contrast in vegetation	< 3 or urbanized	-

Management Class

Total Visual Quality

Preservation	> 17
Retention	14 – 16
Partial Retention	11 – 13
Modification	8 – 10
Rehabilitation	< 7

Results and Discussion

(i) Landscape Description and Classification

Ujung Kulon national park covering an area of 120,551 hectares consisting of 76,214 hectares of land and 44,337 hectares of marine waters. Can be broadly divided into three regions namely Triangles that make up the Ujung Kulon peninsula, Mount Honje region in east and Panaitan Island in the northwest peninsula of Ujung Kulon.

Peucang Island Area

The unique and delightful island of Peucang lies in clear blue waters off the north western coastline of the Ujung Kulon Peninsula. Its white sand beaches and coral reef shore hold a fascinating world of marine life while Peucang's impressive forest shelters an abundance of wildlife, some of which graze and play around the lodges.

A tall closed canopy forest occurs on Gunung Payung, on Pulau Peucang; vegetation of the Telanca Plateau and central lowlands is a more open secondary forest.

Peucang island's beach is superb for swimming and shallow snorkelling reefs are also found all along the shore. For deeper snorkelling there are coral reefs to the east, midway between the island and mainland. Scuba diving areas are also found to the west and at several other locations off Peucang island.

Coral Copong done with high trees through the woods and ends on the coral reefs with corals cavities (Copong) in Coral Copong. Through the trail to the peak height of the reef enjoying the beautiful sunset. From this place there is an alternative trail to head back to the inn.

Ujung Kulon Peninsula

Ujung Kulon Peninsula region is the habitat of the Javan rhino (*Rhinoceros sondaicus*), so that in the management of natural attractions for this location is very limited. This is because in order not to disturb the Javan rhino habitat. The total area of the Ujung Kulon Peninsula is \pm 38,000 ha. Nature tourism activities that can be done at this location include tracking, camping and wildlife viewing. At Ujung Kulon Peninsula there are lines that can be used for tracking. Other facilities are security post that there is some point such as the Coral Beds, Cibunar, and Cidaon. Besides trekking, travel activities that can be done is a wildlife viewing on pasture Cidaon and Cigenter, camping in the Cape Screen, and cultural tourism in Goa Sang Hyang Sirah.

Cidaon located in Ujung Kulon Peninsula, dealing with Peucang Island. There are Pasture Cidaon is quite extensive grazing fields and in complete with watch towers for observing wildlife - animals buffalo, pigs, monkeys, and peacocks. Java rhino at the moment - currently very rare across the grazing fields. Morning and evening are the best time to visit this desert grazing.

River East Ciujungkulon Cidaon was right in the groove forming a navigable river by canoe. The river is peaceful impressed with the muddy swamps and plants.

The walkways Cibunar are available to traverse the peninsula of Ujung Kulon. From Cidaon through the rain forest, across a low area, then Cibunar river, the open pastures and ends on sloping rocky areas on the south coast. westbound right there Cibunar estuaries and Guard post Ujung Kulon national park. This path is the path primate species, bull, boar and the Javan rhino are often found through his footsteps. The state of the forest consists of various types of vegetation are attractive.

Cibom beach located in Ujung Kulon Peninsula.

To reach Tanjung Layar can use a motor boat from the Peucang island to the Cibom beach then walking more than 3 miles to the west of the peninsula. In Cibom will be found the remains of failure by the boat dock construction because of political turmoil and the outbreak of disease at that time. There is a shelter that provides information about the region. The path to the screen has been provided along the Cape coastline toward the West. At this location available lighthouse with views of the rocky peninsula and islands - a beautiful little island. Not so far from the location mecusuar, there is rest - the rest of the building which was first established in the form of a staircase leading up to a height of 40 meters historic location of Tanjung screen with two first lighthouse buildings and staff houses were built in the 1800s. In addition, we also can see the Dutch colonial historical sites such as the former lighthouse tower and pier construction in the Cape Screen and Cibom.

Citerjun Teraces. Located in the north-eastern peninsula of Ujung Kulon. Citerjun terrace is formed by limestone and stalagmites as a result of water flow Citerjung. These conditions are the result of spectacular geological formations. According to the former sailors, this terrace has been destroyed by a tidal wave when Krakatau erupted in 1883

A. Landscape Structure.

Ujung Kulon National Park forms the largest remaining lowland tropical rain forest ecosystem in West Java. The three main ecosystem types in the Park are marine, coastal and terrestrial.

Ujung Kulon National Park an interesting natural attractions, the beauty of the various forms of natural phenomena such as rivers with cascade rapids, waterfalls , white sand beaches, hot springs, marine parks and cultural heritage / history (Ganesha statue, at the Mount of Mercury Panaitan Island). They are all natural charm that is very interesting to visit and hard to find elsewhere.

Landscape character explain base on land form , topografi, Estuaris, rivers,land use , shoreline and land mark

Peucang Island :

The unique and delightful island of Peucang lies in clear blue waters off the north western coastline of the Ujung Kulon Penninsula . Characteristk of land form were flat landscape. Charakteristik of shoreline were white sand beaches, coral reefs, attractive crystal clear blue sea water for swimming, diving, fishing, snorkelling, and plant and animal observation. There were lodge , graze , coral copong and a tall closed canopy forest occurs on Gunung Payung vegetation of the Telanca Plateau and central lowlands is a more open secondary forest.

Ujung Kulon Peninsula :

a) Cidaon :

The characteristic of land form were Undulating land , flat landscape . The other characteristic were pasture Cidaon is quite extensive grazing fields and rain forest . River East Ciujuungkulon and The walkways Cibunar are available to traverse the peninsula of Ujung Kulon. From Cidaon through the rain forest, across a low area, then Cibunar river, the open pastures and ends on sloping rocky areas on the south coast. westbound right there Cibunar estuaries and Guard post Ujung Kulon national park.

b) Cibom :

The characteristic of land form were Rolling Hill , Undulating Hill , characteristic of shoreline were white sand beaches, coral reefs and rocky peninsula and cape coastline The other characeristik there were a shelter, mercusuar and Dutch colonial historical sites such as the former lighthouse tower and pier construction in the Cape Screen. Citerjun terrace is formed by limestone and stalagmites as a result of water flow Citerjung.

B.View and viewpoint

Particular places and routes that offer panoramic or distinctive view from island and sea and viewsheds defined, together with the landscape setting of tourist resorts and recreational areas.

Peucang island

- Resort areas

Distictive view from lodge to graze and play around the lodges

- Beaches

Panoramic view from island and sea



Figure 2. Panoramic view from island and sea (Source: <http://ina>)

Distictive view white Sand and coral blue

- Forest

Distictive tracking and plant arrangement and detail of plant

Ujung Kulon Peninsula

Cidaon

Pasture Cidaon is quite extensive grazing fields

Panoramic view from forest to grazing field



Figure 3. Grazing field (Source: <http://ina>)

Forest

- Distictive tracking and plant arrangement and detail of plant
- Panorama from forest to sea

- Cibom

Distictive island to rocky beach and sandy beach



Figure 4. Rocky and sandy beach (Source: ina)

- Forest

Distinctive tracking in the forest and river

- Tower

Distinctive tower and land form

- Citerjun Terrace

Panoramic view from grazing field to Tanjung Layar

C.Landscape Unit

Peucang Island

a)Resort areas

There are lodges , cafeteria , meeting room and some of which graze and play around the lodges.

b)Peucang island's beach

Clear blue waters off the north western coastline of the Ujung Kulon Peninsula. Its white sand beaches and coral reef shore hold a fascinating world of marine life . Peucang island's beach is superb for swimming and shallow snorkelling reefs are also found all along the shore. For deeper snorkelling there are coral reefs to the east, midway between the island and mainland. Scuba diving areas are also found to the west and at several other locations off Peucang island..

c)Forest

Peucang's impressive forest shelters an abundance of wildlife, with high tree and bushes

d) Coral Copong

The Coral Copong done with high trees through the woods and ends on the coral reefs with corals cavities (Copong) in Coral Copong. Through the trail to the peak height of the reef enjoying the beautiful sunset. From this place there is an alternative trail to head back to the inn.

Ujung Kulon_Peninsula

A.Cidaon

a) Pasture Cidaon is quite extensive grazing fields

b) Rain Forest

B. Cibom .

a) Cibom beach

There is a shelter that provides information about the region. The path to the screen has been provided along the Cape coastline toward the

b)Forest

Rain Forest shelters an abundance of wildlife, with high tree and bushes

c) Citerjun Teraces.

Located in the north-eastern peninsula of Ujung Kulon.

Citerjun terrace is formed by limestone and stalagmites as a result of water flow Citerjung. These conditions are the result of spectacular geological formations. According to the former sailors, this terrace has been destroyed by a tidal wave when Krakatoa erupted in 1883

(ii)Scenic Quality Analysis

Relative scenic quality analysis

Scenic quality in Ujung Kulon Peninsula shows in Cibom scenic quality reached 18 and Cidaon 11 while in Peucang Island scenic quality reached 12. This shows that the scenic quality of UjungKulon Peninsula much better than Peucang Island.

This is because in Ujung Kulon Peninsula, especially in Cibom have a source of water that is shoreline configuration element, reflect major features, islands, shoreline vegetation and rock forms, land forms 60% slope (ridges) and high degree of patterns in vegetation and large old growth timber, species diversity in plants, wilderness and grazed. There are user activity such as viewing tower and bull herders activities. There are also special consideration such as the historical landmarks in the form of the castle and its distinct visual quality view of the forest to the sea and wildlife observation. Free from pollutants and there have aesthetic elements such as Citerjun terrace is formed by limestone and stalagmites as a result of Citerjung water flow. These conditions are the result of spectacular geological formations. While in Cidaon although the characteristic form of the land were flat, but the other landscape characteristic were pasture. Cidaon is quite extensive grazing fields and rain forest and River East Ciujungkulon contribute to the scenic quality in Ujung Kulon Peninsula.

Scenic quality in Peucang reached number 12 achieved from source of scenic shoreline configuration elements namely water, reflect major feauters, islands, shoreline vegetation, white sand beaches and coral reef and blue waters. Although the majority landform is flat but Peucang has a high degree of patterns in vegetation and large old growth timber, species diversity in plants.

Table 1, Scenic Quality

No	Variable	Peucang island	Ujung Kulon Peninsula	
			Cidaon	Cibom
1	Water	3	2	3
2	Land Form	2	1	3
3	Vegetation	3	2	3
4	Land Use	1	2	3
5	User Activity	1	2	3
6	Special Consideration *	2	2	3
	a. This areas contain cultural and historical landmarks			v
	b. This areas within, know for its distinct visual quality and Wildlife observation		v	v
	c. Free from pollution and litter	v	v	v
	d. There are other aesthetic elements that add to this resources	v		v
	TOTAL Visual Quality	12	11	18

(iii) Visual Sensivity

a. Visibility and Visual Accessibility

Define view point (resort , beach, forest, pasture grazing field, tower and Citerjun Terrace) and route (tracking) are mapped and categories in four level of visual accessibility.

Level 1 : High – most frequently used or most popular route or places

Level 2 : Moderate – moderately used routes

Level 3 : Low – Infrequently used routes

Level 4 : Very low Accessibility

View distance (foreground, middle ground and background) are mapped to show various combination of accessibility and distance zone, which indicate landscape sensivity ie the relative visual significance to viewers of each part of the seen landscape. Foreground scenes reveal texture and detail. The middle ground scenes colour and contrast become dominant. At the background, scenes profiles are the major factors in view perception.

The result shown (Table 1) ,Peucang Island level 1 this indicated this area most frequently used and most popular places and route ,while Ujung kulon Peninsula level 2 this indicated this area moderatly used routes.

Table 1 : Visual Accessibility

View Distance	Scenic Accessibility High (1) Modate (2) Low (3) very low)								
	Peucang Island			Ujung Kulon Peninsula					
				Cidaon		Cibom			
	AP1	AP2	AP3	AD1	AD2	AB1	AB2	AB3	AB4
Foreground	1	1	1	1	1	1	1	2	1
Middleground	1	2	2	2	2	2	2	2	1
Background	1	2	3	3	3	2	3	3	1
Average	1			2		2			

Note: Scenic accessibility

Peucang Island. : AP1 = Resort, AP2.= Beach, AP3=Forest

Cidaon : AD1= Pasture grazing field, AD2= Forest

Cibom :AB1= Beach, AB2= forest, AB3=Tower, AB4= Citerjun Terrace

b. Visual Absorption Capability

Visual Absorption Capability (VAC) indicates the capacity of the landscape to absorb visual changes without significant alteration of its landscape character and scenic quality.

The result shown (Table 2) Zone Cibom at Ujung Kulon Peninsula area have highest sensivity to landscape change, while the Cidaon are have lowest sensivity , and Peucang Island are have intermiditly sensivity to landscape change . These result indicated Cibom area have critical scenic value

Table 2 : Visual Absorption Capability

Factor	Variabel	Rating	View point									
			Peucang Island			Ujung Kulon Peninsula						
			VP1	VP2	VP3	Cidaon		Cibom				
VD1	VD2	VB1				VB2	VB3	VB4				
Observer Distance	Foreground	0 – ¼ mil	1		1	1		1	1	1		1
		¼ - 1/2 mil	2	2						2		
	Middleground	½ - 1 mil	3		3	3	3	3	3	3	3	3
		1-2 mil	4	4			4			4		
	Background	>2 mil	5		5			1	5			
Landscape Description	Feature		1	1		1				1		1
	Focal		2		2	2	2		2	2		2
	Enclosed		3	3			3	3		3	3	
	panoramic		4		4				4	4		
	Others		5									
Slope	Very Steep	> 45%	1							1		
	Steep	30 – 45%	2								2	
	Moderate	20 – 30%	3							3		
	Gentle	10 – 20%	4			4	4	4	4	4		4
	Very gentle	0-10%	5	5	5							
Lowest rating in the key view point			15	20	11	16	11	19	28	8	11	
			15.3			13.5		16.5				
			15									
Visual Absorption capability	5-13 Low (L)	(L)	I		H	I	I	L	I	H	L	L
	14-16 Intermediate (I)	(I)	I			L		H				
	17-23 High (H)	(H)	I									

Note: View point

Peucang Island. : VP1 = Resort, VP2.= Beach, VP3=Forest

Cidaon : VD1= Pasture grazing field, VD2= Forest

Cibom : VB1= Beach, VB2= forest, VB3=Tower, VB4= Citerjun Terrace

(iv) Visual Management Strategy

a. Visual Management Zone

The four set of mapped visual lanscape evaluation from lanscape unit,relative quality analysis, visibility and visual accessibility and visual absorption are then combined by matrix to difine three Visual resources Management Zones [Zone Peucang Island (A), Ujung Kulon Peninsula: Cidaon (B) and Cibom (C)].

Table 4 : Visual Resources Management Zone

View Distance	Scenic accessibility High (1) Modate (2) Low (3) very low)								
	Peucang Island (A)			Ujung Kulon Peninsula					
				Cidaon (B)		Cibom (C)			
	AP1	AP2	AP3	AD1	AD2	AB1	AB2	AB3	AB4
Foreground	1	1	1	1	1	1	1	2	1
Middleground	1	2	2	2	2	2	2	2	1
Background	1	2	3	3	3	2	3	3	1
	+	+	+	+	+	+	+	+	+
Visual Absorption Capacity	Intermediate VAC	High VAC	Intermediate VAC	Intermediate VAC	Low VAC	Intermediate VAC	High VAC	Low VAC	Low VAC
	Intermediate VAC			Low VAC		Intermediate VAC			
	Intermediate VAC								
Very High Scenic Quality									C. 18
High Scenic Quality	A. 12								
moderate Scenic Quality				B. 11					
Moderate /low scenic quality									

Zone A Peucang Island areas have high visual quality coinciding with higher tolerance of to landscape change ,recommended for management are graded accordingly

Zone B Cidaon areas have moderated scenic quality coinciding with highest sensivity to landscape change ,recommended for management therefore of critical to the areas ; recommended for protection of their visual values.

Zone Cibom areas have highest visual quality coinciding with higher tolerance of to landscape change ,recommended for management are graded accordingly

b. Visual Management Zone

Visual Management zone was conducted to determine management class of scenic quality based on Visual Resources Assessment Procedure (VRP) (Richard C.Smardon, James F, Palmer. Alfred Knof and Kate Grinde ,1988),

Management Class	Total Visual Quality
1. Preservation	> 17
2. Retention	14 – 16
3. Partial Retention	11 – 13
4. Modification	8 – 10
5. Rehabilitation	< 7

The result shown (see Table 3).

Zone Cibom at Ujung Kulon Peninsula area have highest visual quality coinciding higher tolerance of to landscape change ,recommended for management are graded accordingly .

Because this area entered in the class first(1) category including preservation in the management class. It means the protection needs in this area because of its high scenic quality and the Ujung Kulon Peninsula area is the habitat of the Javan rhino (Rhinoceros sondaicus). The management of natural attractions for this location is very limited in order not to disturb the Javan rhino habitat.

Zone Cidaon and Peucang Island are moderate visual quality coinciding with moderate sensivity to landscape change ; recomended for partial retention. Because this area entered in the third class3 category including partial retention in the management class. This region has scenic quality in particular places.

Table 3 , Management Class

No	Zone	Visual Quality	Class
1	Peucang Island	15.3	2
2	Ujung Kulon Peninsula	Cidaon	13.5
		Cibom	16.5

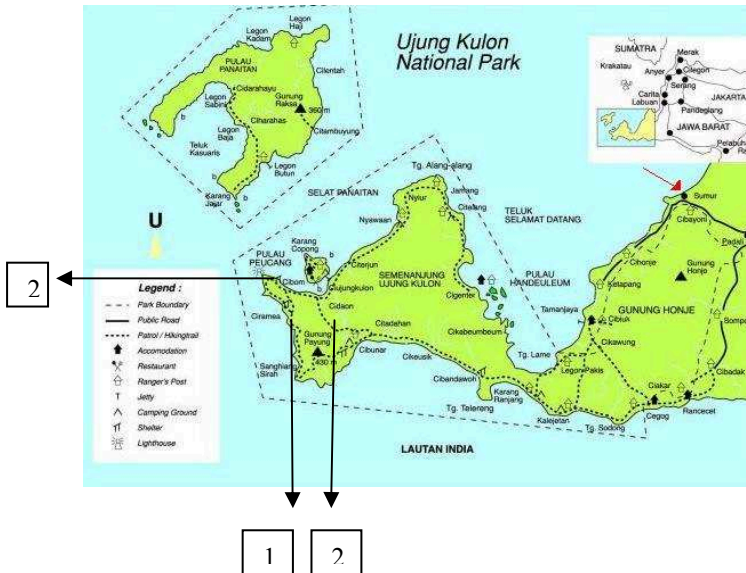


Figure 2, Management Class Ujung Kulon National Park.

c. Visual Resources Management Strategies

The mapped Visual Resources Management Zones are the basis for series of management objectives, strategy

No	Zone	Scenic Management Objective	Strategy
1	Peucang Island	Shore lines: To protect the dominance of the natural character of shorelines in management: Zone Peucang island by insuring visual impacts of development are minimal Forest : To protect the dominance of the secondary rain forest in management:	-Design minimal 50 meter buffer zone -Protect in the existing 90% of vegetation - Restrict development in the this area in zone Peucang to the following criteria : - Small jetty --protect in the existing 90% of vegetation especially big tree
2	Ujung Kulon Peninsula	Cidaun extensive grazing: To protect the dominance of the natural character of grazing in management	Protect in the existing 100% grazing
		Cibom Shore lines: To protect the dominance of the natural character of shorelines in management: Forest : To protect the dominance of the secondary rain forest in management. Hillside : To protect dominance natural character in hill site areas in management.	Design minimal 50 meter buffer zone -Protect in the existing 90% of vegetation and rocky -Restrict development in the shoreline in zone Ujung Kulon Peninsula to the following criteria :- small jeti protect in the existing 90% of vegetation especially big tree Hillside : Restrict development in the hill side

			<p>Citerjun terrace : To protect the dominance of the citerjun terrace in management.</p>	<p>area in zone Ujung Kulon Peninsula to the following criteria : -Small scale -Protect in the existing tree, 90% of the hill side vegetation . Protect 100% of the limestone and stalagmites</p>
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Summary

1. Landscape Description and Classification

A. Landscape Structure.

- a. Island of Peucang lies in clear blue waters ,flat landscape. white sand beaches, coral reefs, secondary forest, graze , coral copong and lodge.
- b. Ujung Kulon Peninsula :
 - 1) Cidaon : Undulating land , flat landscape. Pasture Cidaon is quite extensive grazing fields and rain forest. River East Ciujungkulon and the walkways Cibunar, open pastures and sloping rocky.
 - 2) Cibom : Rolling Hill , Undulating Hill , white sand beaches, coral reefs and rocky peninsula and cape coastline ,shelter, mercusuar and Dutch colonial historical sites and Citerjun terrace is formed by limestone and stalagmites.

B. Views and Viewpoint

Particular places and routes that offer panoramic or distinctive view from island and sea and viewsheds defined, together with the landscape setting of tourist resorts and recreational areas.

C. Landscape Unit

- a. Peucang Island : a)Resort areas,b)Peucang island's beach, c)Forest, d) Coral Copong.
- b. Ujung Kulon Peninsula
 - 1) Cidaon : Pasture Cidaon is quite extensive grazing fields, Secondary Rain Forest
 - 2) Cibom : Cibom beach, Rain Forest ,Citerjun Teraces.

2. Relative scenic quality

Scenic quality of UjungKulon Peninsula much better than Peucang Island.

3. Visual Management Strategy

A. Visual management Zone

- a. Cibom at Ujung Kulon Peninsula entered in the class 1 category including preservation in the management class .
- b.Cidaon and Peucang Island entered in the third class category including partial retention in the management class.

B. Visual Resources Management Strategies

- a. Scenic management objective majority to protect the resources
- b. Scenic management strategy following the creteria .

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10.4028/www.scientific.net/AMM.747

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10.4028/www.scientific.net/AMM.747.109

NIM_Peuncang

by Nur Intan Mangunsong

Submission date: 12-Apr-2023 08:48AM (UTC+0700)

Submission ID: 2062100101

File name: Peuncang_jurnal_intl_Advance_material.pdf (1.54M)

Word count: 5158

Character count: 27469

11 Visual Landscape Management of Scenic Peucang Island and Ujung Kulon Peninsula in Ujung Kulon National Park, Indonesia

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Keywords: visual landscape, visual quality, visual research management

Abstract. National Park consists of core zone, buffer zone and utilization zone. Utilization zone can be used for recreational activities. This area has an outstanding beauty, high visibility and natural values inevitably attract development which is the potential development of physical, social, visual which can support tourism activities. The base long term management plan of Ujung Kulon National Park (2001-2020) is maintaining its natural beauty and preserving the critical habitats. Scenic landscape quality and character must be included in the management plan because these factors are valuable resources in need of protection and management. This paper will discuss on study conducted to evaluate visual landscape for manage the scenic Peucang Island and Ujung Kulon Peninsula. The method comprehensive assessment in this research were used through Landscape Description and Classification, Visual Quality and Visual Resources Management. The result shown the scenic quality of Ujung Kulon Peninsula much better than Peucang Island. Area Cibom at Ujung Kulon Peninsula entered in the class 1 category including preservation in the management class however Cidaon and Peucang Island entered in the third class category including partial retention in the management class.

Introduction

Ujung Kulon National Park covering an area of 120.551 hectares consisting of 76,214 hectares of land and 44,337 hectares of marine waters. Can be broadly divided into three regions namely Triangles that make up the Ujung Kulon peninsula, Mount Honje region in east and Panaitan Island in the northwest peninsula of Ujung Kulon.

Ujung Kulon National Park is an interesting natural attractions, the beauty of the various forms of natural phenomena such as rivers with cascade rapids, waterfalls, white sand beaches, hot springs, marine parks and cultural heritage / history. They are all natural charm that is very interesting to visit and difficult to find elsewhere.

The national park is the west end of the National park area is famous in the world. National park has a core zone, buffer zone and the zone inside utilization. Utilization zone can be used for recreational activities. In reviews, these area has an outstanding beauty and high visibility and natural values inevitably attract development which is the potential development of physical, social, visual which can support tourism activities.

Some researchers have found that visual aspect is very important in order to increase the tourism industry, for examples Allan (1983) supported with his statement 'viewing scenery is an important sub component in recreational activity. The intangible "Amenity" value of scenery has often places it in priority below commodity values such as tourism development, scenery has become recognized as significant natural and recreational resources (Daniel et al 1989, Magill 1982).

The base long term management plan of Ujung Kulon National Park (2001-2020) is maintaining its natural beauty and preserving the critical habitats which prepare by Directorate

6 General of Forest Protection and Nature Conservation- the Ministry of Forestry. Scenic quality and landscape character must be included in management plan , because these factors are valuable resources in need of protection and management.

11 Furthermore this paper will discuss on study conducted to evaluate visual landscape for manage the scenic Peucang Island and Ujung Kulon Peninsula .



Figure 1. Ujung Kulon National Park (Source: <http://www.peucangisland.com/id/ujung-kulon-national-park.htm>)

Methodology

The survey was done at Peucang Island and Ujung Kulon Peninsula to get information for this research . Data collection for this research was divided into primary data and secondary data. The primary data were collected by doing take pictures and some observation in the site in 2013. These observation were also conducted to achieve the first objective of the research which is to determine visual quality . Secondary data were collected from centre of Ujung Kulon Nasional Park. The second objective of the research is to managed the visual quality in Peucang Island and Ujung Kulon Peninsula.

The method comprehensive assessment in these research were used through Landscape Description and classification, Visual Quality and Visual Resources Management. Visual Quality Analysis based on a modification of the Visual Resources Assessment Procedure (VRP) (Richard C.Smardon, James F, Palmer, Alfred Knof and Kate Grinde ,1988), Predication and assessment of visual impacts (Smardon,Plamer and Felemean 1986 written in the Environmental Impact Aassessment (Larry W.Canter 1996) is the sum of the variable water, land form, vegetation,land use, user activity and special consideration). To calculate the variable using a Likert scale as ordinal data with scale 1 – 3. (Distinct, Avarage,Minimal)

Scenic quality criteria 1.Water, 2.Land Form,3.Vegetation, 4.Land use 5.User activity, 6.Special consideration : a. Does this zone contain any Cultural or Historical Landmarks ?, b. Is This zone, or areas within, know for its distinct visual quality and or wildlife observation, c. Is this zone free from pollution and litter ?, d. Are there other aesthetic elements that add to this resources

Level of Visual Quality

a.) Visual Resources assessment Procedure (VRAP) (Richard C. Smardon, james F. Palmer, Alfred Knof and Kate Grinde, 1988)

DISTINCT :

Something that is considered unique and is an asset to the areas. Its typically recognized as a visual / aesthetic asset and may have many positive attributes. Diversity and variety are characteristics in such a resources. (Unique, Diversity and variations of each variable)

AVERAGE:

Something that is common in the area and not known its uniqueness, but rather is representative of typical landscape of the area. (General, representing the typical landscape of the region)

MINIMAL :

Something that maybe looked upon as a liability in the area. It is basically lacking any positive aesthetic attributes and may actually diminish the visual quality of surrounding areas.

(no value aesthetic)

View point assessment analysis based variable filled in accordance with the level of visual quality of each variables were obtained from the visual input resort.

Especially for special consideration: Total ** a) > 3 or more = Distinct, b) 1 – 2 = Average c) = Minimal.

b).Modification of Visual Resources assessment Procedure (VRAP) (Richard C. Smardon, James F. Palmer, Alfred Knof and Kate Grinde, 1988) , Prediction and Assessment of Visual Impacts (Smardon , Plamer and Feleman 1986) in Environmental Impact Assessment book (Larry W.Canter 1996)

VALUE	WATER	LAND FORM	VEGETATION	LAND USE	USER ACTIVITY
3. DISTINCT	Resources 5 item Scale (lake >50 acres. Shoreline configuration, reflect major features, islands, shoreline vegetation or rock forms) Movement (streams , Falls, rapids, pools and meanders of large volume)	5 item or 60% slope(ridges or dominant features)or Bold hill, mountains	High degree of patterns in vegetation or Large old growth timber Diversity in plants species. Variety of vegetative interesting form, texture and pattern	5 item or Wilderness, Grazed	< 3
2. COMMON	Resources 3 Item Scale (lake 5 to 50 acres ; shoreline irregularly; minor reflection. Shoreline vegetation) Movement (streams . common meandering , flow characteristics	3 item or 30 – 60% slopes (moderately dissected or rolling) or Hill country Plateau up land	Continuous vegetative Mature but not outstanding old growth Or common diversity in plant species Some variety but only one or two types	3 item or Lumbering, forest, mixed recreation	< 1
1.MINIMAL	Resources < 3 item Scale (lake <5 acres, No irregularly or reflection) Movement (stream, no flusion in flow or fsll, rspids or mesdering	< 3 item or 0 – 30 % slopes (little variety No dissection No dominant features) or low up land and low land	Continuous vegetative cover with little or no pattern. Or No understory, over story or ground cover. No variety or contrast in vegetation	< 3 or urbanized	-

Management Class	Total Visual Quality
Preservation	> 17
Retention	14 – 16
Partial Retention	11 – 13
Modification	8 – 10
Rehabilitation	< 7

Results and Discussion

(i) Landscape Description and Classification

Ujung Kulon national park covering an area of 120.551 hectares consisting of 76 214 hectares of land and 44,337 hectares of marine waters. Can be broadly divided into three regions namely Triangles that make up the Ujung Kulon peninsula, Mount Honje region in east and Panaitan Island in the northwest peninsula of Ujung Kulon.

1 Peucang Island Area

The unique and delightful island of Peucang lies in clear blue waters off the north western coastline of the Ujung Kulon Peninsula. Its white sand beaches and coral reef shore hold a fascinating world of marine life while Peucang's impressive forest shelters an abundance of wildlife, some of which graze and play around the lodges.

A tall closed canopy forest occurs on Gunung Payung, on Pulau Peucang; vegetation of the Telanca Plateau and central lowlands is a more open secondary forest.

1 Peucang island's beach is superb for swimming and shallow snorkelling reefs are also found all along the shore. For deeper snorkelling there are coral reefs to the east, midway between the island and mainland. Scuba diving areas are also found to the west and at several other locations off Peucang island.

Coral Copong done with high trees through the woods and ends on the coral reefs with corals cavities (Copong) in Coral Copong. Through the trail to the peak height of the reef enjoying the beautiful sunset. From this place there is an alternative trail to head back to the inn.

Ujung Kulon Peninsula

4 Ujung Kulon Peninsula region is the habitat of the Javan rhino (*Rhinoceros sondaicus*), so that in the management of natural attractions for this location is very limited. This is because in order not to disturb the Javan rhino habitat. The total area of the Ujung Kulon Peninsula is ± 38,000 ha. Nature tourism activities that can be done at this location include trackking, camping and wildlife viewing. At Ujung Kulon Peninsula there are lines that can be used for trackking. Other facilities are security post that there is some point such as the Coral Beds, Cibunar, and Cidaon. Besides trekking, travel activities that can be done is a wildlife viewing on pasture Cidaon and Cigenter, camping in the Cape Screen, and cultural tourism in Goa Sang Hyang Sirah.

Cidaon located in Ujung Kulon Peninsula, dealing with Peucang Island. There are Pasture Cidaon is quite extensive grazing fields and in complete with watch towers for observing wildlife - animals buffalo, pigs, monkeys, and peacocks. Java rhino at the moment - currently very rare across the grazing fields. Morning and evening are the best time to visit this desert grazing.

River East Ciujungkulon Cidaon was right in the groove forming a navigable river by canoe. The river is peaceful impressed with the muddy swamps and plants.

The walkways Cibunar are available to traverse the peninsula of Ujung Kulon. From Cidaon through the rain forest, across a low area, then Cibunar river, the open pastures and ends on sloping rocky areas on the south coast. westbound right there Cibunar estuaries and Guard post Ujung Kulon national park. This path is the path primate species, bull, boar and the Javan rhino are often found through his footsteps. The state of the forest consists of various types of vegetation are attractive.

Cibom beach located in Ujung Kulon Peninsula.

To reach Tanjung Layar can use a motor boat from the Peucang island to the Cibom beach then walking more than 3 miles to the west of the peninsula. In Cibom will be found the remains of failure by the boat dock construction because of political turmoil and the outbreak of disease at that time. There is a shelter that provides information about the region. The path to the screen has been provided along the Cape coastline toward the West. At this location available lighthouse with views of the rocky peninsula and islands - a beautiful little island. Not so far from the location mecusuar, there is rest - the rest of the building which was first established in the form of a staircase leading up to a height of 40 meters historic location of Tanjung screen with two first lighthouse buildings and staff houses were built in the 1800s. In addition, we also can see the Dutch colonial historical sites such as the former lighthouse tower and pier construction in the Cape Screen and Cibom.

Citerjun Terraces. Located in the north-eastern peninsula of Ujung Kulon. Citerjun terrace is formed by limestone and stalagmites as a result of water flow Citerjung. These conditions are the result of spectacular geological formations. According to the former sailors, this terrace has been destroyed by a tidal wave when Krakatau erupted in 1883

A. Landscape Structure.

Ujung Kulon National Park forms the largest remaining lowland tropical rain forest ecosystem in West Java. The three main ecosystem types in the Park are marine, coastal and terrestrial.

Ujung Kulon National Park an interesting natural attractions, the beauty of the various forms of natural phenomena such as rivers with cascade rapids, waterfalls, white sand beaches, hot springs, marine parks and cultural heritage / history (Ganesha statue, at the Mount of Mercury Panaitan Island). They are all natural charm that is very interesting to visit and hard to find elsewhere.

Landscape character explain base on land form, topografi, Estuaris, rivers, land use, shoreline and land mark

Peucang Island :

The unique and delightful island of Peucang lies in clear blue waters off the north western coastline of the Ujung Kulon Peninsula. Characteristic of land form were flat landscape. Characteristic of shoreline were white sand beaches, coral reefs, attractive crystal clear blue sea water for swimming, diving, fishing, snorkelling, and plant and animal observation. There were lodge, graze, coral copong and a tall closed canopy forest occurs on Gunung Payung vegetation of the Telanca Plateau and central lowlands is a more open secondary forest.

Ujung Kulon Peninsula :

a) Cidaon :

The characteristic of land form were Undulating land, flat landscape. The other characteristic were pasture Cidaon is quite extensive grazing fields and rain forest. River East Ciujungkulon and The walkways Cibunar are available to traverse the peninsula of Ujung Kulon. From Cidaon through the rain forest, across a low area, then Cibunar river, the open pastures and ends on sloping rocky areas on the south coast. westbound right there Cibunar estuaries and Guard post Ujung Kulon national park.

b) Cibom :

The characteristic of land form were Rolling Hill, Undulating Hill, characteristic of shoreline were white sand beaches, coral reefs and rocky peninsula and cape coastline. The other characteristic there were a shelter, mercusuar and Dutch colonial historical sites such as the former lighthouse tower and pier construction in the Cape Screen. Citerjun terrace is formed by limestone and stalagmites as a result of water flow Citerjung.

B.View and viewpoint

Particular places and routes that offer panoramic or distinctive view from island and sea and viewsheds defined, together with the landscape setting of tourist resorts and recreational areas.

Peucang island

- Resort areas

Distinctive view from lodge to graze and play around the lodges

- Beaches

Panoramic view from island and sea



Figure 2. Panoramic view from island and sea (Source: <http://ina>)

Distinctive view white Sand and coral blue

- Forest

Distinctive tracking and plant arrangement and detail of plant

Ujung Kulon Peninsula

Cidaon

Pasture Cidaon is quite extensive grazing fields

Panoramic view from forest to grazing field



Figure 3. Grazing field (Source: <http://ina>)

Forest

- a) Distinctive tracking and plant arrangement and detail of plant
- b) Panorama from forest to sea

- Cibom

Distinctive island to rocky beach and sandy beach



Figure 4. Rocky and sandy beach (Source: ina)

- Forest
Distinctive tracking in the forest and river
- Tower
Distinctive tower and land form
- Citerjun Terrace
Panoramic view from grazing field to Tanjung Layar

C.Landscape Unit

Peucang Island

a)Resort areas

There are lodges , cafeteria , meeting room and some of which graze and play around the lodges.

b)Peucang island's beach

Clear blue waters off the north western coastline of the Ujung Kulon Peninsula. Its white sand beaches and coral reef shore hold a fascinating world of marine life . Peucang island's beach is superb for swimming and shallow snorkelling reefs are also found all along the shore. For deeper snorkelling there are coral reefs to the east, midway between the island and mainland. Scuba diving areas are also found to the west and at several other locations off Peucang island..

c)Forest

Peucang's impressive forest shelters an abundance of wildlife, with high tree and bushes

d) Coral Copong

The Coral Copong done with high trees through the woods and ends on the coral reefs with corals cavities (Copong) in Coral Copong. Through the trail to the peak height of the reef enjoying the beautiful sunset. From this place there is an alternative trail to head back to the inn.

Ujung Kulon_Peninsula

A.Cidaon

- a) Pasture Cidaon is quite extensive grazing fields
- b) Rain Forest

B. Cibom .

a) Cibom beach

There is a shelter that provides information about the region. The path to the screen has been provided along the Cape coastline toward the

b)Forest

Rain Forest shelters an abundance of wildlife, with high tree and bushes

c) Citerjun Teraces.

Located in the north-eastern peninsula of Ujung Kulon.

Citerjun terrace is formed by limestone and stalagmites as a result of water flow Citerjung. These conditions are the result of spectacular geological formations. According to the former sailors, this terrace has been destroyed by a tidal wave when Krakatoa erupted in 1883

(ii)Scenic Quality Analysis

Relative scenic quality analysis

Scenic quality in Ujung Kulon Peninsula shows in Cibom scenic quality reached 18 and Cidaon 11 while in Peucang Island scenic quality reached 12. This shows that the scenic quality of UjungKulon Peninsula much better than Peucang Island.

This is because in Ujung Kulon Peninsula, especially in Cibom have a source of water that is shoreline configuration element, reflect major features, islands, shoreline vegetation and rock forms, land forms 60% slope (ridges) and high degree of patterns in vegetation and large old growth timber, species diversity in plants, wilderness and grazed. There are user activity such as viewing tower and bull herders activities. There are also special consideration such as the historical landmarks in the form of the castle and its distinct visual quality view of the forest to the sea and wildlife observation. Free from pollutants and there have aesthetic elements such as Citerjun terrace is formed by limestone and stalagmites as a result of Citerjung water flow. These conditions are the result of spectacular geological formations. While in Cidaon although the characteristic form of the land were flat, but the other landscape characteristic were pasture. Cidaon is quite extensive grazing fields and rain forest and River East Ciujungkulon contribute to the scenic quality in Ujung Kulon Peninsula.

Scenic quality in Peucang reached number 12 achieved from source of scenic shoreline configuration elements namely water, reflect major feauters, islands, shoreline vegetation, white sand beaches and coral reef and blue waters. Although the majority landform is flat but Peucang has a high degree of patterns in vegetation and large old growth timber, species diversity in plants.

Table 1, Scenic Quality

No	Variable	Peucang island	Ujung Kulon Peninsula	
			Cidaon	Cibom
1	Water	3	2	3
2	Land Form	2	1	3
3	Vegetation	3	2	3
4	Land Use	1	2	3
5	User Activity	1	2	3
6	Special Consideration *	2	2	3
	a. This areas contain cultural and historical landmarks			v
	b. This areas within, know for its distinct visual quality and Wildlife observation		v	v
	c. Free from pollution and litter	v	v	v
	d. There are other aesthetic elements that add to this resources	v		v
	TOTAL Visual Quality	12	11	18

(iii) Visual Sensivity

a. Visibility and Visual Accessibility

Define view point (resort , beach, forest, pasture grazing field, tower and Citerjun Terrace) and route (tracking) are mapped and categories in four level of visual accessibility.

- Level 1 : High – most frequently used or most popular route or places
- Level 2 : Moderate – moderately used routes
- Level 3 : Low – Infrequently used routes
- Level 4 : Very low Accessibility

View distance (foreground, middle ground and background) are mapped to show various combination of accessibility and distance zone, which indicate landscape sensivity ie the relative visual significance to viewers of each part of the seen landscape. Foreground scenes reveal texture and detail. The middle ground scenes colour and contrast become dominant. At the background, scenes profiles are the major factors in view perception.

The result shown (Table 1) ,Peucang Island level 1 this indicated this area most frequently used and most popular places and route ,while Ujung kulon Peninsula level 2 this indicated this area moderatly used routes.

Table 1 : Visual Accessibility

View Distance	Scenic Accessibility								
	High (1) Modate (2) Low (3) very low)								
	Peucang Island			Ujung Kulon Peninsula					
				Cidaon		Cibom			
	AP1	AP2	AP3	AD1	AD2	AB1	AB2	AB3	AB4
Foreground	1	1	1	1	1	1	1	2	1
Middleground	1	2	2	2	2	2	2	2	1
Background	1	2	3	3	3	2	3	3	1
Average	1			2		2			

Note: Scenic accessibility

Peucang Island. : AP1 = Resort, AP2.= Beach, AP3=Forest

Cidaon : AD1= Pasture grazing field, AD2= Forest

Cibom :AB1= Beach, AB2= forest, AB3=Tower, AB4= Citerjun Terrace

b. Visual Absorption Capability

Visual Absorption Capability (VAC) indicates the capacity of the landscape to absorb visual changes without significant alteration of its landscape character and scenic quality.

The result shown (Table 2) Zone Cibom at Ujung Kulon Peninsula area have highest sensivity to landscape change, while the Cidaon are have lowest sensivity , and Peucang Island are have intermiditly sensivity to landscape change . These result indicated Cibom area have critical scenic value

Table 2 : Visual Absorption Capability

Factor	Variabel	Rating	View point									
			Peucang Island			Ujung Kulon Peninsula						
			VP1	VP2	VP3	Cidaon		Cibom				
VD1	VD2	VB1				VB2	VB3	VB4				
Observer Distance	Foreground	0 – ¼ mil	1		1	1		1	1	1		1
		¼ - 1/2 mil	2	2						2		
	Middleground	½ - 1 mil	3		3	3	3	3	3	3	3	3
		1-2 mil	4	4				4			4	
	Background	>2 mil	5		5			1	5			
Landscape Description	Feature		1	1		1				1		1
	Focal		2		2	2	2		2	2		2
	Enclosed		3	3			3	3		3	3	
	panoramic		4		4				4	4		
	Others		5									
Slope	Very Steep	> 45%	1							1		
	Steep	30 – 45%	2								2	
	Moderate	20 – 30%	3							3		
	Gentle	10 – 20%	4			4	4	4	4	4		4
	Very gentle	0-10%	5	5	5							
Lowest rating in the key view point			15	20	11	16	11	19	28	8	11	
			15.3			13.5			16.5			
			15									
Visual Absorption capability	5-13 Low (L)	(L)	I		H	I	I	L	I	H	L	L
	14-16 Intermediate (I)	(I)	I			L			H			
	17-23 High (H)	(H)	I									

Note: View point

Peucang Island. : VP1 = Resort, VP2.= Beach, VP3=Forest

Cidaon : VD1= Pasture grazing field, VD2= Forest

Cibom : VB1= Beach, VB2= forest, VB3=Tower, VB4= Citerjun Terrace

(iv) Visual Management Strategy

a. Visual Management Zone

The four set of mapped visual lanscape evaluation from lanscape unit,relative quality analysis, visibility and visual accessibility and visual absorption are then combined by matrix to difine three Visual resources Management Zones [Zone Peucang Island (A), Ujung Kulon Peninsula: Cidaon (B) and Cibom (C)].

Table 4 : Visual Resources Management Zone

View Distance	Scenic accessibility								
	Peucang Island (A)			Ujung Kulon Peninsula					
				Cidaon (B)		Cibom (C)			
	AP1	AP2	AP3	AD1	AD2	AB1	AB2	AB3	AB4
Foreground	1	1	1	1	1	1	1	2	1
Middleground	1	2	2	2	2	2	2	2	1
Background	1	2	3	3	3	2	3	3	1
	+	+	+	+	+	+	+	+	+
Visual Absorption Capacity	Intermediate VAC	High VAC	Intermediate VAC	Intermediate VAC	Low VAC	Intermediate VAC	High VAC	Low VAC	Low VAC
	Intermediate VAC			Low VAC		Intermediate VAC			
Very High Scenic Quality							C. 18		
High Scenic Quality	A. 12								
moderate Scenic Quality				B. 11					
Moderate /low scenic quality									

Zone A Peucang Island areas have high visual quality coinciding with higher tolerance of to landscape change ,recommended for management are graded accordingly

Zone B Cidaon areas have moderated scenic quality coinciding with highest sensivity to landscape change ,recommended for management therefore of critical to the areas ; recommended for protection of their visual values.

Zone Cibom areas have highest visual quality coinciding with higher tolerance of to landscape change ,recommended for management are graded accordingly

b. Visual Management Zone

Visual Management zone was conducted to determine management class of scenic quality based on Visual Resources Assessment Procedure (VRP) (Richard C.Smardon, James F, Palmer, Alfred Knof and Kate Grinde ,1988),

Management Class	Total Visual Quality
1. Preservation	> 17
2. Retention	14 – 16
3. Partial Retention	11 – 13
4. Modification	8 – 10
5. Rehabilitation	< 7

The result shown (see Table 3).

Zone Cibom at Ujung Kulon Peninsula area have highest visual quality coinciding higher tolerance of to landscape change ,recommended for management are graded accordingly .

Because this area entered in the class first(1) category including preservation in the management class. It means the protection needs in this area because of its high scenic quality and the Ujung Kulon Peninsula area is the habitat of the Javan rhino (Rhinoceros sondaicus). The management of natural attractions for this location is very limited in order not to disturb the Javan rhino habitat.

Zone Cidaon and Peucang Island are moderate visual quality coinciding with moderate sensivity to landscape change ; recomended for partial retention. Because this area entered in the third class3 category including partial retention in the management class. This region has scenic quality in particular places.

Table 3 , Management Class

No	Zone	Visual Quality	Class
1	Peucang Island	15.3	2
2	Ujung Kulon Peninsula	Cidaon 13.5	2
		Cibom 16.5	1

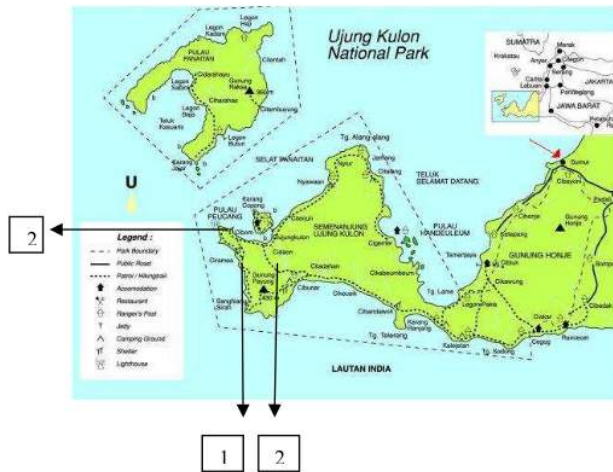


Figure 2, Management Class Ujung Kulon National Park.

c. Visual Resources Management Strategies

The mapped Visual Resources Management Zones are the basis for series of management objectives, strategy

No	Zone	Scenic Management Objective	Strategy
1	Peucang Island	Shore lines: To protect the dominance of the natural character of shorelines in management: Zone Peucang island by insuring visual impacts of development are minimal Forest : To protect the dominance of the secondary rain forest in management:	-Design minimal 50 meter buffer zone -Protect in the existing 90% of vegetation - Restrict development in the this area in zone Peucang to the following criteria : - Small jetty --protect in the existing 90% of vegetation especially big tree
2	Ujung Kulon Peninsula	Cidaun extensive grazing: To protect the dominance of the natural character of grazing in management	Protect in the existing 100% grazing
		Cibom Shore lines: To protect the dominance of the natural character of shorelines in management: Forest : To protect the dominance of the secondary rain forest in management. Hillside : To protect dominance natural character in hill site areas in management.	Design minimal 50 meter buffer zone -Protect in the existing 90% of vegetation and rocky -Restrict development in the shoreline in zone Ujung Kulon Peninsula to the following criteria :- small jeti protect in the existing 90% of vegetation especially big tree Hillside : Restrict development in the hill side

			<p>Citerjun terrace : To protect the dominance of the citerjun terrace in management.</p>	<p>area in zone Ujung Kulon Peninsula to the following criteria : -Small scale -Protect in the existing tree, 90% of the hill side vegetation . Protect 100% of the limestone and stalagmites</p>
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Summary

1. Landscape Description and Classification

A. Landscape Structure.

- a. Island of Peucang lies in clear blue waters ,flat landscape. white sand beaches, coral reefs, secondary forest, graze , coral copong and lodge.
- b. Ujung Kulon Peninsula :
 - 1) Cidaon : Undulating land , flat landscape. Pasture Cidaon is quite extensive grazing fields and rain forest. River East Cijungkulon and the walkways Cibunar, open pastures and sloping rocky.
 - 2) Cibom : Rolling Hill , Undulating Hill , white sand beaches, coral reefs and rocky peninsula and cape coastline ,shelter, mercusuar and Dutch colonial historical sites and Citerjun terrace is formed by limestone and stalagmites.

B. Views and Viewpoint

Particular places and routes that offer panoramic or distinctive view from island and sea and viewsheds defined, together with the landscape setting of tourist resorts and recreational areas.

C. Landscape Unit

- a. Peucang Island : a)Resort areas,b)Peucang island's beach, c)Forest, d) Coral Copong.
- b. Ujung Kulon Peninsula
 - 1) Cidaon : Pasture Cidaon is quite extensive grazing fields, Secondary Rain Forest
 - 2) Cibom : Cibom beach, Rain Forest ,Citerjun Teraces.

2. Relative scenic quality

Scenic quality of UjungKulon Peninsula much better than Peucang Island.

3. Visual Management Strategy

A. Visual management Zone

- a. Cibom at Ujung Kulon Peninsula entered in the class 1 category including preservation in the management class .
- b.Cidaon and Peucang Island entered in the third class category including partial retention in the management class.

B. Visual Resources Management Strategies

- a. Scenic management objective majority to protect the resources
- b. Scenic management strategy following the creteria .

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