THE NATURAL RESOURCES MANAGEMENT PROJECT (THE NRM PROJECT)

DEVELOPMENT OF A PROCEDURE FOR EVALUATION THE POTENTIAL OF NATURE-BASED TOURISM DEVELOPMENT WITH TEST APPLICATION IN NORTH SULAWESI

FINAL REPORT

AUGUST, 1993

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1.1. OBJECTIVE OF THE STUDY

Nature-based tourism area is one of the natural resources needs to be utilized for the sake of people's prosperity. It is significant asset to support national development process. Its concept is relatively new and needs to be developed where professional management is required.

Owing to its exclusive characteristic, its market potency to enjoy its special attraction is still limited and must be combined with other tourism activities such as hunting, wild-life tourism, mountain climbing, beach tourism, etc.

The attractiveness of nature-based tourism objects are higher if their locations are closed each other and has access to reach other tourism attractions such as landscape, beautiful beach, hot spring, green hill, lake park, zoo, cave, hotel, city and supported by proper facilities and utilities.

There are some protected forest areas have been fulfilling those requirements of which nowadays being developed as tourism forest or tourism destination but lack of promotion, information and its future development plan.

The Ministry of Forestry and other concerned institutions authorized in forest management have an interest to identify the qualification of potential eco-tourism and its attractiveness

Nature-based tourism activities needs evaluation based on certain criteria and procedure. Its evaluation criteria comprises physical-ecology, economic-financial and environmental condition aspect. According to those criteria, its potential tourism value can be assessed and qualified to prepare its future development strategy as eco-tourism.

Its development plan can be engineered by critical analysis in such a way that its attraction feature (integrated with other attrative elements of its surroundings) will serve certain values fulfilling qualification as a significant tourism object.

This study is aimed at developing and preparing guideline on procedure and evaluation criteria on potential value of nature-based tourism object (success and failure). Empirically, test application on those criteria is conducted at Bunaken National Ocean Park (Taman National Laut) area, North Sulawesi.

The Guideline might be used to evaluate all nature based tourism objects, with or without modification, depending on the local characteristics and condition.

I.2. SCOPE OF WORK

To achieve the aforementioned objective, the scope of works are as follows :

a. Review the existing references and study about nature-based tourism activities.

b. Identify and examine the critical parameters and contraints of either successful activities or less successful ones.

c. Formulate the guideline about evaluation procedure and criteria of success/failure of nature-based tourism activities and also conduct the test application on Bunaken tourism area, North Sulawesi.

Furthermore in detail, there are two aspects need to be analyzed critically on the process of empirical evaluation toward nature-based tourism :

1. Resource tourism product supply consisting of critical parameters :

   * Ecological sustainability.

   * Carrying capacity of resources to gain operational benefit.

   * Evaluation toward investment to maintain and manage the resources traditionally.

   * Evaluation of empirical evidence of nature-based tourism resources, include relevant and related facilities and utilities.

   Based on evaluation toward resources management and its operational management, predictive approach to evaluate the potential nature-based tourism and its possible success can be developed.

2. Economic benefit or positive impact of nature-based tourism activities especially toward regional and local development process embracing the following elements :

   * Its real contribution toward regional economic development including job opportunities, investment opportunities and income generation.

   * Analysis on socio economic cost created by the existing activities, including who will bear that cost and outcome of the mitigation and cost minimization.

   * Analysis of demand aspects: demand projection & break even point (BEP) analysis to estimate the profitable operation level and identify how to achieve that level, market promotion result, effective demand and projection of its development activity return.

   Critical analysis on demand projection and significant impact assessment of the mentioned nature-based tourism activity will become a guideline to formulate the evaluation criteria of the tourism object success or failure.

CHAPTER II

PROCEDURE AND CRITERIA OF EVALUATION

CHAPTER II

PROCEDURE AND CRITERIA OF EVALUATION

2.1. CRITERIA

Evaluation Criteria is needed as an instrument both to evaluate and plan the tourism object development. Beside to evaluate the success or failure and the attractiveness (resources and market potenlials), it is used also to determine the development priority, utilization and management policy.

The evaluation criteria must consider several interest as follow :

a. Ecological sustainability, including environmental protection.

b. Development and utilization of natural resources capacity to gain benefit from it.

c. Investment for operation, conservation and maintenance of nature-based tourism area.

d. Tourism object contribution to regional economic development (job opportunities, income generation).

e. Controll of socio-economic impacts.

f. Protection and education for tourist and local community.

Therefore the base for evaluation has to cover several criteria to assure that the combination of the above interests can be fulfilled, which in its outline consists of physic-ecological, socio-economic and environmental condition aspects.

The main aspects of nature-based tourism need to be evaluated are :

A. Physic-ecological Aspect

1. Attractiveness of the tourism object.

2. Degree of external relation.

3. Environmental condition.

4. Climate condition.

5. Facilities and utilities :

   a. Accomodation.
   b. Access road and transportation system.
   c. Telecommunication.
   d. Clean water and electricity.

B. Socio-economic and Financial Aspect

6. Potential Market.

7. External relations with growth poles and other tourism objects.

8. Health, education and security services.

9. Investment.

10. Managerial capability.

11. Cost of visit, including lodging, food and shopping.

12. Contribution toward regional economic development.

13. Cultural inheritance (geology, ethnic, archaeological site).

14. Local community development .

2.2. EVALUATION PROCEDURE

A. Identification of relevant factors: Aspects, Elements and Sub-elements.

Each evaluated aspect can be more specified and developed by identifying its elements and sub-elements depending on type, characteristic and specific condition of the nature-based tourism area being evaluated.

Some of them become critical factors. Generally, those elements are as follows :

PHYSIC-ECOLOGICAL ASPECT :

1. General attractiveness

   1.1. Beautiful scenery
   1.2. Diversity of prominent resources (asset) as attractive tourism object
   1.3. Uniqueness
   1.4. Originality and balance
   1.5. Diversity and alternative of recreation opportunities
   1.6. Environmental cleanliness (air, water, location)
   1.7. Manuver space and carrying capacity in hectare (intensive use)
   1.8. Sensitivity

2. Attractiveness of ocean park

   2.1. Safety
   2.2. Diversity of fauna
   2.3. Beautiful scenery of the Ocean park
   2.4. Originality
   2.5. Uniqueness and sensitivity
   2.6. Water clarity
   2.7. Number of location and depth
   2.8. Scenery and comfortability
   2.9. Intensive use area

3. Attractiveness of the beach

   3.1. Beauty of the beach
   3.2. Type of sand
   3.3. Wide and length of the beach (coastal area)
   3.4. Variation of activites
   3.5. Comfortability

4. Degree of physical external relations.

   4.1. Road network condition
   4.2. Transportation system, frequency and its intensity

5. Environmental condition

   5.1. Land use pattern
   5.2. Ownership status
   5.3. Population density
   5.4. Community attitude
   5.5. Education
   5.6. Existing media
   5.7. Biological impact
   5.8. Natural resources

6. Climate condition

   6.1. Climate variation, rainfall
   6.2. Temperature
   6.3. Sun radiation
   6.4. Wind velocity and wind direction
   6.5. Humidity

7. Basic infrastructure

   7.1. Accommodation
   7.2. Clean water
   7.3. Electricity

8. Supporting facilities and utilities

8.1. Other infrastructure
8.2. Facilities of activity
8.3. Supporting facilities
8.4. Special facilities
8.5. Institutions

SOCIO-ECONOMIC ASPECT :

9. Potential Market

9.1. Domestic tourist (number of population and their income)
9.2. Foreign tourist (state of origin, quantity, expenditure and length of stay)
9.3. Tourism facilities
9.4. Promotion activity
9.5. Service quality

10. External economic relations

10.1. Relations with growth poles
10.2. Relations with other tourism objects

11. Welfare service

11.1. Health
11.2. Education
11.3. Security

12. Investment

12.1. Business opportunities
12.2. Investment development and feasibility
12.3. Investment facilities and procedures

13. Managerial capability and organization

13.1. Status and organization
13.2. Number of employee
13.3. Income of employee
13.4. Status of employee

14. Financial management

14.1. Availability of budget fund
14.2. Source Of fund

15. Service management

15.1. Service quality
15.2. Language capability
15.3. Maintenance and service facilities
15.4. Plan and mitigation of environmental impacts
15.5. Leadership

16. Cost and funding

    16.1. Operation and maintenance cost of tourism object
    16.2. Source of fund in financing the tourism object
    16.3. Cash Flow and profit/loss or surplus/ deficit
    16.4. Cost of visit (lodging, food, transport, and shopping)

17. Impact on regional economic development

    17.1. Business and job opportunities
    17.2. Improvement of income
    17.3. Productivity and efficiency of resources utilization
    17.4. Economic and business information

18. Cultural inheritance

    18.1. Geology
    18.2. Ethnic
    18.3. Archaeological site
    18.4. Religion and belief
    18.5. Custom, tradition and solidarity

19. Local community development

    19.1. Community related activities
    19.2. People participation (active, passive)
    19.3. Utilization of existing tourism object by local community

B. Weighting

Critical factor of each aspect can be developed and spesified based on tourism object location and content of prominent elements and sub-elements.

Nature-based tourism location comprises :

a. Relatively flat hinterland
b. Hill/mountain
c. Beach and Sea

Whereas potencial assets available at a tourism area might consist of cave, lake, cultural site and special species of flora and fauna.

These locations and potencial assets will determine the attractiveness of the potential tourism object. The weight of each aspect varies from 1 - 6, whereas the score of elements and sub-elements will depend on its possible quality development through man-effort or other activities.

Weight Table

Aspect	Magnitude	Consideration
A. Physic-ecological		
1. General attractiveness	6	Internal main asset
2. Ocean-park attractiveness	6	Internal main asset
3. Beach attractiveness	6	Internal main capital
4. Physical external relations	5	Stimulation of development
5. Environmental condition	5	Environmental setiing as a determining factor within the radius of a kilometre
6. Climate	4	Comfort factor
7. Basic infrastructure	2	Activity support
8. Supporting facilities & utilities	2	Activity support
B. Socio-economic		
9. Potential	5	Key of external success
10. Economic external relations	5	Stimulate growth
11. Welfare service	4	Visitors service quality
12. Investment	4	business expectation and climate
13. Organization & management	4	Professional and institutional development
14. Financial management	4	Professional and institutional development
15. Service management	4	Professional and institutional development
16. Cost of visit	3	Visit efficiency
17. Regional economic development	3	Economic impact of tourism activities
18. Prominent cultural inheritance	2	Conservation & attractiveness
19. Local community development	4	Solidarity, harmony and operational utilization

C. Scoring

Score of each element is determined based on index varying from 50-200: this is total number of each element/sub-element on each aspect. This total number is obtained from the multiplication betwen aspect weight and total value of elements/sub-elements.

Scoring is based on primary data (field survey), secondary data (local statistic) and other sources. The evaluation is conducted by two or three people, especially for the one having qualitative characteristics (attractiveness, social impact etc).

Critical factor will be analysed based on findings from each tourism area, especially in respect with existing conflict of interest (land use pattern), environmental management and financial-economic calculation.

Thus, scoring system embraces weighing for the aspects and scoring for the elements/sub-elements. By multiplying the weight and the total number figure of elements/sub-elements for each aspect, the critical factors can be identified. Based on the result of multiplication and priority sequence, the problem analysis can be conducted, and then to formulate ecological preservation plan development of natural recources utilization, development of investment plan for operation, conservation and maintenance of tourism area and also mitigation of physical, biological, socio-economic, financial and environmental management impact.

2.3. FORMAT OF EVALUATION CRITERIA

FORMAT OF SCORING CRITERIA

1. General attractiveness			
1.1. Natural beauty a. Free view on the object area b. Free view toward the object area c. Hormony in color and building on the object area d. Relaxation of atmosphere on the object area e. View in surounding the object area	Present	Absent	Scorring: Present 1 = 10 2 = 15 3 = 20 4 = 25 5 = 30 Absent = 5 N = ...
1.2. Biodiversity of the attractive natural resources. a. Geology b. Flora c. Fauna d. Water e. Natural symptom	Present	Absent	Absent = 5 Present 1 = 10 2 = 15 3 = 20 >3 = 25 N = ...
1.3. Uniqueness of natural resources. a. Local b. Regional c. National d. International	Present	Absent	Absent = 1 Local = 5 Regional = 15 National = 20 International = 30 N = ...
1.4. Units, harmony and sustainability a. Geology b. Flora c. Fauna d. Ecosystem	Present	Absent	Absent = 5 Present 1 = 10 2 = 15 3 = 20 4 = 25 N = ...

1.5. Alternatives of recreational opportunities/ utilization a. Science b. Cultural/belief c. Medical Treatment/ Health d. Relaxation/Sport e. Convention f. Development/Investement	Present	Absent	Absent = 5 Present 1-2= 10 3-4=15 5-6=20 N = ...
1.6. Cleanness of location: water, and air (no pollution) a. Natural b. Industrial activity /Hotel c. Traffic/Local community d. Settlement/housing e. Wild animal/fauna f. Visitor's litter g. Scratching	Present	Absent	Absent = 20 Present 1-2= 15 3-4= 10 5-6= 5 7= 2 N = ...
1.7. Carrying Capacity for visitors (in hectare)	Less than 30 people per hectare	More than 30 people per hectare	< 30 = 5 31 - 40 = 10 41 - 50 = 15 > 50 = 20 N = ...
	Total (1) =		N = ...

2. Ocean Park attractiveness

2.1. Safety

Score

a. No disturbances from widlife
b. No dangerous heavy stream
c. Heavy Storm is rare
d. Sea transportation is rare
e. No disturbance in belief
f. No abruptness on the bottom of the sea

Present > 4 = 30
4 = 25
3 = 20
2 = 15

N = ...

2.2. Variation of fauna

a. Variation of big and tame fauna
b. Variation & ornamental fish (minimal of 15 species)
c. Variation of soft and hard coral (minimal of 40 species)
d. Anemon field, 15 variability

Present 4 = 30
3 = 25
2 = 20
1 = 15

N = ...

2.3. Under sea beauty

a. Marine flora availability
b. Sea cave (crack) availability
c. Sea relief beauty
d. Variation/harmony of views

Present 4 = 25
3 = 20
2 = 15
1 = 10

N = ...

2.4. Originality (%)

90 - 100 = 25
60 - 90 = 20
40 - 59 = 15
40 = 10

N = ...

2.5. Uniquiness and sensitivity

a. Archaeological/historical object availability
b. Sank-ship availability
c. Remarteable formation availability
d. Scientific value availability

Present 4 = 20
3 = 15
2 = 10
1 = 5

N = ...

2.6. Water clarity

a. Visible until minimum 15 m-depth	Present >4 = 20 4 = 15 3 = 10 1-2 = 5
b. No disturbing plancton	
c. No settlement influences	
d. No harbor influences	N = ...
e. No market/fish warehouse/factory influences	
f. No other pollution	

2.7. The amount of point of object and its depth (in m)

> 7 m = 20
5 - 6 m = 15
3 - 4 m = 10
1 - 2 m = 5

N = ...

2.8. View condition and comfortability

a. Shady beach	Present 4 = 15
b. White sand beach	3 = 10
c. Beach cleanliness	2 = 5
d. Mountain / Island panorama	1 = 2

N = ...

2.9. Intensive use area (hectare)

> 150 = 15
100 - 149 = 10
50 - 99 = 5
< 49 = 2

N = ...

Total (2) = N = ...

3. **Beach attraction**

3.1. Beach beauty

a. Variation of island/ mountain at panorama	Present 5 = 35 4 = 30 3 = 25
b. Relief beauty	2 = 20
c. Shady of beach	1 = 15
d. Harmony of beach panorama and surounding	0 = 5
e. Any Special Character	N = ...

3.2. Type of sand

a. Coral sand	= 30
b. White - quartz sand	= 25
c. Black - quartz sand	= 20
d. Loam - quartz sand	= 15
f. Lack of sand/very small amount of sand	= 10

N = ...

3.3. Beach width (in meter) measured in the low tide and the length of beach is at least of 1 km

a. > 150	= 25
b. 100 - 150	= 20
c. 50 - 100	= 15
d. < 50	= 10

N = ...

3.4. Variarion of activities

a. > 6	= 30
b. 5 - 6	= 25
c. 3 - 4	= 20
d. 1 - 2	= 15
e. 0	= 5

N = ...

3.5. Comfortability

a. No noise	Present	4 = 20
b. No unpleasent smell		3 = 15
c. Small gravel and hard coral		2 = 10
d. No litter		1 = 5

Total (3) = N = ...

4. Accessibility 4.1. Road condition and distance a. Inland Road (km) From the nearest city	Good	Fair	Poor	B a d	Score
< 75	50	40	30	20	
76 - 150	40	30	25	15	N = ..
151 - 225	30	20	15	5	
> 225	20	10	5	1	

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b. Sea, river and lake transportation (km) from the nearest city					
< 35	50	60	40	20	
36 - 70	60	40	25	15	N = ..
71 - 100	40	20	15	5	
> 100	20	10	5	1	
4.2. Transportation system					
a. Amount of vehicle (car, boat)	> 7500 20	5001-7500 15	2501-5000 10	< 2500 5	N = ..
b. Frequency (unit per day)	Easty/ >25 units 20	Sufficient/ 17-24 units 15	9-16 units	Difficult/ < 8 units 5	
c. Amount of seat per week	> 6000 20	4001-6000 15	2001-4000 10	< 2000 5	N = ..

Total (4) = N = ...

5. Environemntal Condition		
5.1. Land use scheme		
a. Unimplemented supporting plan	25	
b. Supporting plan is available	20	
c. Land use plan is not available/improper environmental pattern	15	N = ...
d. Improper land use plan	10	
e. Unimplemented land use planning	5	
5.2. Land-ownership status		
a. Government-owned land 50%	20	
b. Community and 50%	15	
c. Customary land 50%	10	
d. Private or corporation - owned land 50%	5	N = ...
5.3. Population density/occupation		
a. Population km^2		
< 100	20	
101 - 150	15	
150 - 200	10	N = ...
> 200	5	

b. Unemployment		
> 30 %	20	
21 % - 30 %	15	
9 % - 20 %	10	N = ...
< 9 %	5	
c. Main occupation		
50% Small peasant/ craftsman/fisherman	20	
50% Small-trader/industry	15	N = ...
50% Service labor	10	
50% Farmer/civil servant	5	
5.4. The attitude of local community		
a. Supportive	20	
b. Passive participation	15	N = ...
c. Opposing		
5.5. Education		
a. 50% graduated higher than junior high school	20	
b. 50% graduated primary school	15	
c. 50% not graduated primary school	10	N = ...
d. 50% illeterate	5	
5.6. Mess media availability		
a. TV, Radio, Mass media	20	
b. TV, Radio	15	
c. Radio	10	N = ...
d. No media available	5	
5.7. Potential biological resources		
a. Critical	20	
b. Moderate	15	
c. Fertile	10	N = ...
d. Very fertile	5	
5.8. Potential physical resources		
a. No construction material available	20	
b. Construction material resources availability	15	
c. Valuable mineral availability	10	N = ...
d. Mineral material availability	5	

Total (5) = N = ...

6. Climate condition					Score
6.1. Amount of favorable months to visit	10 - 12 50	7 - 9 40	4 - 6 30	< 4 10	N = ...
6.2. Everage temperature on dry season (^{o}C)	<10 - 21 30	22 - 24 20	25 - 27 10	28 - 30 5	N = ...
6.3. Amount month per year/on dry/humid	8 30	7 20	6 10	5 - <4 5	N = ...
6.4. Sun radiation (%) in rainy season	> 65 30	64 - 60 20	59 - 55 10	45 -<45 5	N = ...
6.5. Wind velocity in dry season (knot per hour)	Soft 1 - 2 30	Moderate 3 - 4 20	Less 5 - 6 20	Strong > 7 1	N = ...
6.6. Humidity (x/year)	< 60 30	61 - 70 20	71 - 80 10	> 81 5	N = ...

Total (6) = N = ...

7. Main utilities and infrastructure	Score	
7.1. Accomodation facilities (within radius of 75 km) Room number		
< 100	5	
101 - 250	10	
251 - 500	20	
501 - 750	30	N = ...
750 - > 1000	40	
7.2. Water supply		
(1) Supply		
a. very easy	40	
b. easy	30	
c. rather easy	20	N = ...
d. difficult	10	
(2) Distance between water sources and tourism object location		
a. 0 - 3	20	
b. 3,1 - 5 km	15	
c. 5,1 - 7 km	10	N = ...
d. > 7 km	5	

(3) Debit of water resources litre/second)		
a. > 2	20	
b. 1 - 2	15	
c. 0,5 - 0,9	10	N = ...
d. 0,5	5	
7.3. Electricity		
(1) Supply		
a. very easy	40	
b. easy	30	
c. rather easy	20	N = ...
d. difficult	10	
(2) Distance of electric power resource		
a. 0 - 3 km	20	
b. 3,1 - 5 km	15	
c. 5,1 - 7 km	10	N = ...
d. > 7 km	5	
(3) Electric energy (kw)		
a. > 50	20	
b. 30 - 50	15	
c. 10 - 30	10	N = ...
d. < 10	5	

Total (7) = N = ...

8. Supporting Utilities and Infrastructure	Present	Absent	Score
8.1. Other utilities			Absent = 5
a. Post & telegram office			Present 1 = 10
b. Telephone and facsimile			2 = 15
c. Fire station			3 = 20
d. Health facilities			4 = 25
e. Security			5 = 30
f. Worship facities			6 = 40
			N = ...
8.2. Activity facilities for at least of 10 persons (sport, recreation etc)			Present <3 = 5
			3-5 = 10
			6-8 = 20
			9-10= 30
			>10= 40
			N = ...

8.3. Supporting facilities a. Restourant b. Shopping center / market c. Bank d. Souvenir shop e. Photo printing f. Travel Bureau			Absent = 5 Present 1 = 10 2 = 15 3 = 20 4 = 25 5 = 30 6 = 40 N = ...
8.4. Special facilities a. For children b. For older people c. For handicapped people			Absent = 5 Present 1 = 20 2 = 30 3 = 40 N = ...
8.5. Institution a. Management Center b. Education & training for employee c. Employee cooperative d. Goverment institution (local agency, head of village, subdistric head).			Absent = 5 Present 1 = 20 2 = 30 3 = 40 N = ...

Total (8) = N = ...

9. Market Potency	Score 40	30	20	10
	Score 40	30	20	10
9.1. Foreign tourist				
a. Amount per year	>10.000	5000-1000	1000-100	< 100
b. Country of origin	>5 states	4 states	3 states	< 2 states
c. Average duration of stay	> 7 days	5 - 6 days	3-4 days*	< days
d. Expenditure per day (US $)	> 500	300 - 500		< 100
		N = ...		
9.2. Domestic Tourist				
a. Amount per year	>100.000	50.000-10.000	10.000-1000	< 1000
b. Province of origin	> 5 provinces	4 provinces	3 provinces.	< 2 states
c. Average duration of stay	> 7 days	5 - 6 days	3-4 days	< 2 says
d. Expenditure per day (Rp)	> 500 thousand	300 - 500 thousend	100 - 299 thousand	< 100
		N = ...		
9.3. Population within the radius of 75 kilometres	>300.000	200.000 - 300.000	100.000 - 200.000	< 100.000
a. Population density/km^2 + amount of population.	> 2000	2000 - 3000	1000-2000	< 100
	20	15	10	5
		N = ...		
b. Average income (per capita, in Rp. 1000)	> 1000	500 - 1000	500-200	< 200
	20	15	10	5
		N = ...		
9.4. Travelling Facility: Distance with the regional/international main gate;	< 1000	1000 - 1500	1500-2000	> 2000
Biak, Ujung Pandang, Pekanbaru, Medan, Manado.	5	4	2	1
Surabaya	10	8	5	2
Denpasar	15	12	8	5
Jakarta	20	15	10	8
		N = ...		

	Present	Absent	
9.5. Promotion campaign a. Brochure, Film b. Travel agent c. Advertisement d. Exhibition e. Sufficient promotion fund			Scoring Absent = 5 Present 1 = 10 2 = 15 3 = 20 4 = 25 5 = 30 N = ...
9.6. Service satisfaction a. Service completeness b. Consumer satisfaction c. Repeat visit d. Comprehensive information e. Positive image			Absent = 5 Present 1 = 10 2 = 15 3 = 20 4 = 25 5 = 30 N = ...

Total (9) = N = ...

10. **Economic Relationship (within the radius of 75 kilometres)**

	Amount						
10.1. With growth poles	0 10	1 20	2 30	3 40	4 50	>5 60	N = ...
10.2. With other tourism object (different type)	0 10	1 20	2 30	3 40	4 50	>5 60	N = ...

Total (10) = N = ...

11. **Welfare service**			
11.1. Health a. Hospital b. Clinic/Public health centre c. Doctor d. Dispensary/Drug store	Present	Absent	Scoring Absent = 10 Present 1 = 20 2 = 30 3 = 40 4 = 50 5 = 60 N = ...

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11.2. Education a. Primary scholl b. Junior high scholl c. Senior high school d. College school/ University e. Course			Absent = 10 Present 1 = 20 2 = 30 3 = 40 4 = 50 5 = 60 N = ...
11.3. Security a. Security guard/Civilion defense b. Police/Military c. Tourist-Guide d. Life safe guard			Absent = 10 Present 1 = 20 2 = 30 3 = 40 4 = 50 5 = 60 N = ...
		Total (11) =	N = ...

12. Investment			
12.1. Invesment opportunity a. For operation (goverment and private) b. For conservation and maintenance of the ecotourism area c. Invesment facilities d. Invesment procedure guideline	Present	Absent	Scoring Absent = 10 Present 1 = 20 2 = 30 3 = 40 4 = 50 N = ...
12.2. Development of Invesment (Rp. per year) - > 1 billion - 500 million - 1 billion - 300 million - 500 million - 100 million - 300 million - < 100 million	60 50 40 30 20	10	N = ...
		Total (12) =	N = ...

13. Organization management	Score		
13.1. Status & organization of management			
a. State-owned corporation/joint venture	50		
b. Private corporation	40		
c. Government institution	30		
d. Village	20		N = ...
e. Not available		10	
13.2. Amount of employee (people)			
- > 45	20		
- 31 - 44	15		
- 16 - 30	10		
- 3 - 15	5		N = ...
- < 3	1		
13.3. The minimum employee income per month			
- > Rp. 100.000	20		
- Rp. 80.000 - 99.000	15		
- Rp. 60.000 - 79.000	10		N = ...
- < 60.000	5		
13.4. Status of employee			
- > 50 % permanent employee	20		
- > 50 % daily wage earner	15		
- > 50 % side job	10		N = ...
- > 50 % seasonal employee	5		

Total (13) = N = ...

14. Financial Management	Present	Absent	Scoring
14.1. Availability budget for :			Absent = 1
a. Adminstration			Present 1 = 5
b. Maintenance			2 = 10
c. Development			3 = 20
d. Operation			4 = 30
e. Marketing/promotion			5 = 45
f. Pollution control and damage			6 = 50
			N = ...

14.2. Sources of fund a. 100% visitor contribution b. >50 % visitor contribution c. 50 % subsidy d. 50 % grant e. No sources of fund available	40 30 20 10 1		N = ...

Total (14) = N = ...

15. Service Management	Present	Absent	Absent = 1 Present 1 = 30 2 = 25 3 = 20 4 = 15 5 = 10 6 = 5
15.1. Service quality a. Fast b. Hospitality c. Capability in communication d. Capability in giving information e. Correct/politeness f. Information officer /public relation			N = ...
15.2. Language proficiency a. Local language b. Indonesian language c. Foreign language			Present 1 = 5 2 = 10 3 = 15 N = ...
15.3. Maintenance and service facilities a. Information facilities b. Rest area c. Parking area d. Public sanitation e. hygienic facilities f. Source of electricity g. Visitors' statistics			Absent = 1 Present 7 = 35 6 = 30 5 = 25 4 = 20 3 = 15 2 = 10 1 = 5 N = ...

15.4. Planning and controlling damage/pollution a. Development plan b. Environmental Impact Assessment c. RKL & RPL d. Feasibility Study			Absent = 1 Present 4 = 40 3 = 30 2 = 20 1 = 10 N = ...
15.5. Management qualification based on experience in the fields of: a. Conservation of nature-based tourism b. Socio-economic and business	Year > 10 8 6 4 < 4 > 10 8 6 4 < 4 N = 30 25 20 15 10		N = ...
		Total (15) =	N = ...

16. Cost and Revenue	Present	Absent	Scoring
16.1. Cost a. Personnel cost < 25 % b. Conservation cost > 50 % c. Promotion cost > 5 % d. General cost > 20 %			Absent 10 Present 1 = 40 2 = 35 3 = 30 4 = 25 N = ...
16.2. Revenue a. Subsidy b. Visitor constribution c. Profit d. Donation			Absent 10 Present 1 = 40 2 = 35 3 = 30 4 = 25 N = ...
16.3. Cash flow a. Deficit every year b. Defisit during last five years c. Defisit during last two years d. Break even point e. Surplus every year	Score 10 20 25 30 40		N = ...

16.4. Travelling cost (transport, lodging, food, shopping)			
a. Very expensive	5		
b. Expensive	10		
c. Moderate/reasonable	15		
d. Cheap	20		N = ...
e. Very cheap	25		
		Total (15) =	N = ...

17. **Impact on Regional Economic Development**	Score		
17.1. Create job and business opportunities			
a. Support new business	25		
b. Expand the existing	20		
c. Create new job opportunities	15		N = ...
d. Relocate manpower from other regions	10		
17.2. Income growth			
a. Local community income increase >100 %	30		
b. Local community income increase between 50 - 99 %	25		
c. Local community income increase <50 %	20		
d. No increase of local community income	15		
e. Income is transferred to other regions	10		N = ...
17.3. Productivity and efficiency of utilized resources			
a. Productivity increases > 100 %	30		
b. Productivity increases 50 - 99 %	25		
c. Productivity increases < 50 %	20		
d. No increase of productivity	15		
e. Efficiency is increased	10		
f. No increase of efficiency	5		N = ...

17.4. Economic/business information a. A lot of information b. Sufficient c. Poor d. Difficult to find/ not available	20 15 10 5		N = ...
		Total (17) =	N = ...

18. **Prominent Cultural Inheritance**	Present	Absent	Scoring
			Absent = 5 Present 1 = 10 2 = 20 3 = 30 4 = 40 5 = 50
a. Geology			
b. Ethnic			
c. Archaeological object			
d. Religion/belief			
e. Custom and tradition			
		Total (19)=	N = ...
19. Community Development			
a. Programme of community development	30		
b. Community participation	25		
c. Utilization of tourism objects by local community	20		
d. Development of small - scale business by local community	15		
e. Prahibition for local community to intervere	5		
		Total (19)=	N = ...

CHAPTER III

TEST APPLICATION RESULT AT BUNAKEN NATURE-BASED TOURISM AREA

CHAPERT III

TEST APPLICATION RESULT AT BUNAKEN NATURE - BASED TOURISM AREA

3.1. ASSESSMENT RESULT BASED ON EVALUATION CRITERIA

A. Format Filling

1. General attractiveness			
1.1. Natural beauty	Present	Absent	Scorring:
a. Free view on the object area	*		Present 1 = 10
b. Free view toward the object area	*		2 = 15
c. Hormony in color and building on the object area		*	3 = 20
d. Relaxation of atmosphere on the object area	*		4 = 25
e. View in surounding the object area	*		5 = 30
			Absent = 5
			N = 25
1.2. Biodiversity of the attractive natural resources.	Present	Absent	Absent = 5
a. Geology		*	Present 1 = 10
b. Flora	*		2 = 15
c. Fauna	*		3 = 20
d. Water	*		>3 = 25
e. Natural symptom		*	N = 20
1.3. Uniqueness of natural resources.	Present	Absent	Absent = 1
a. Local			Local = 5
b. Regional			Regional = 15
c. National			National = 20
d. International	*		International = 30
			N = 30

1.4. Units, harmony and sustainability	Present	Absent	Absent = 5
a. Geology		*	Present 1 = 10
b. Flora		*	2 = 15
c. Fauna		*	3 = 20
d. Ecosystem		*	4 = 25
			N = 5
1.5. Alternatives of recreational opportunities/ utilization	Present	Absent	Absent = 5
a. Science	*		Present 1-2= 10
b. Cultural/belief		*	3-4=15
c. Medical Treatment/ Health		*	5-6=20
d. Relaxation/Sport	*		
e. Convention		*	N = 10
f. Development/Investement		*	
1.6. Cleanness of location water, and air (no pollution)	Present	Absent	Absent = 20
a. Natural	*		Present 1-2= 15
b. Industrial activity /Hotel		*	3-4= 10
c. Traffic/Local community		*	5-6= 5
d. Settlement/housing	*		7= 2
e. Wild animal/fauna		*	
f. Visitor's litter	*		N = 10
g. Scratching		*	
1.7. Carrying Capacity for visitors (in hectare)	Less than 30 people per hectare	More than 30 people per hectare	< 30 = 5
			31 - 40 = 10
			41 - 50 = 15
			> 50 = 20
		*	N = 20
	Total 1) =		N = 20

2. Ocean Park attractiveness

Score

2.1. Safety

a. No disturbances from widlife *
b. No dangerous heavy stream *
c. Heavy Storm is rare *
d. Sea transportation is rare *
e. No disturbance in belief *
f. No abruptness on the bottom of the sea

esent > 4 = 30
4 = 25
3 = 20
2 = 15

N = 30

2.2. Variation of fauna

a. Variation of big and tame fauna
b. Variation & ornamental fish (minimal of 15 species) *
c. Variation of soft and hard coral (minimal of 40 species) *
d. Anemon field, 15 variability *

Present 4 = 30
3 = 25
2 = 20
1 = 15

N = 25

2.3. Under sea beauty

a. Marine flora availability
b. Sea cave (crack) availability
c. Sea relief beauty
d. Variation/harmony of views

Present 4 = 25
3 = 20
2 = 15
1 = 10

N = 25

2.4. Originality (%)

90 - 100 = 25
60 - 90 = 20 *
40 - 59 = 15
40 = 10

N = 20

2.5. Uniquiness and sensitivity

a. Archaeological/historical object availability
b. Sank-ship availability
c. Remarteable formation availability
d. Scientific value availability

Present 4 = 20
3 = 15
2 = 10
1 = 5

N = 10

2.6. Water clarity

		Present	>4 = 20
a. Visible until minimum			4 = 15
15 m-depth	*		3 = 10
b. No disturbing plancton	*		1-2 = 5
c. No settlement influences	*		
d. No harbor influences	*	N = 20	
e. No market/fish warehouse/ factory influences	*		
f. No other pollution	*		

2.7. The amount of point of object and its depth (in m)

> 7 m = 20	*	
5 - 6 m = 15		
3 - 4 m = 10		N = 20
1 - 2 m = 5		

2.8. View condition and comfortability

a. Shady beach	*	Present	4 = 15
b. White sand beach	*		3 = 10
c. Beach cleanliness			2 = 5
d. Mountain / Island panorama	*		1 = 2
		N = 10	

2.9. Intensive use area (hectare)

> 150 = 15	*	
100 - 149 = 10		
50 - 99 = 5		N = 15
< 49 = 2		

Total (2) = N = 175

3. **Beach attraction**

3.1. Beach beauty

		Present	5 = 35
a. Variation of island/ mountain at panorama	*		4 = 30
b. Relief beauty	*		3 = 25
c. Shady of beach			2 = 20
d. Harmony of beach panorama and surounding	*		1 = 15
e. Any special character			0 = 5
		N = 25	

3.2. Type of sand

a. Coral sand		= 30
b. White - quartz sand		= 25
c. Black - quartz sand		= 20
d. Loam - quartz sand	*	= 15
f. Lack of sand/very small amount of sand		= 10

N = 15

3.3. Beach width (in meter) measured in the low tide and the length of beach is at least of 1 km

a. > 150	= 25	
b. 100 - 150	= 20	
c. 50 - 100	= 15	N = 10
d. < 50	= 10	*

3.4. Variarion of activities

a. > 6	= 30	
b. 5 - 6	= 25	
c. 3 - 4	= 20	
d. 1 - 2	= 15	* N = 15
e. 0	= 5	

3.5. Comfortability

a. No noise	*	Present	4 = 20
b. No unpleasent smell			3 = 15
c. Small gravel and hard coral	*		2 = 10
d. No litter	*		1 = 5

Total (3) = N = 80

4. Accessibility 4.1. Road condition and distance a. Inland Road (km) From the nearest city	Good	Fair	Poor	B a d	Score
< 75	50 *	40	30	20	
76 - 150	40	30	25	15	N = 50
151 - 225	30	20	15	5	
> 225	20	10	5	1	

b. Sea, river and lake transportation (km) from the nearest city					
< 35	50	60 *	40	20	
36 - 70	60	40	25	15	N = 60
71 - 100	40	20	15	5	
> 100	20	10	5	1	
4.2. Transportation system					
a. Amount of vehicle (car, boat)	> 7500 20	5001-7500 15	2501-5000 10 *	< 2500 5	N = 10
b. Frequency (unit per day)	Easty/ >25 units 20	Sufficient/ 17-24 units 15	9-16 units	Difficult/ < 8 units 5	
c. Amount of seat per week	> 6000 20	4001-6000 15	2001-4000 10	< 2000 5 *	N = 5

Total (4) = N = 135

5. Environemntal Condition		
5.1. Land use planning		
a. Unimplemented supporting plan	25	
b. Supporting plan is available	20	
c. Land use plan is not available/improper environmental pattern	15	N = 5
d. Improper land use plan	10	
e. Unimplemented land use planning	5 *	
5.2. Land-ownership status		
a. Government-owned land 50%	20	
b. Community and 50%	15	
c. Customary land 50%	10 *	
d. Private or corporation - owned land 50%	5	N = 10
5.3. Popualtion density/occupation		
a. Population km^2		
< 100	20 *	
101 - 150	15	
150 - 200	10	N =20
> 200	5	

b. Unemployment		
> 30 %	20	
21 % - 30 %	15	
9 % - 20 %	10 *	N = 10
< 9 %	5	
c. Main occupation		
50% Small peasant/ craftsman/fisherman	20 *	
50% Small-trader/industry	15	
50% Service labor	10	N = 20
50% Farmer/civil servant	5	
5.4. The attitude of local community		
a. Supportive	20	
b. Passive participation	15 *	N = 15
c. Opposing		
5.5. Education		
a. 50% graduated higher than junior high school	20	
b. 50% graduated primary school	15 *	
c. 50% not graduated primary school	10	N = 15
d. 50% illeterate	5	
5.6. Mess media availability		
a. TV, Radio, Mass media	20	
b. TV, Radio	15	
c. Radio	10 *	N = 10
d. No media available	5	
5.7. Potential biological resources		
a. Critical	20	
b. Moderate	15 *	
c. Fertile	10	N = 15
d. Very fertile	5	
5.8. Potential physical resources		
a. No construction material available	20	
b. Construction material resources availability	15	
c. Valuable mineral availability	10 *	N = 10
d. Mineral material availability	5	

Total (5) = N = 130

6. **Climate condition**					Score
6.1. Amount of favorable months to visit	10 - 12 50	7 - 9 40 *	4 - 6 30	< 4 10	N = 40
6.2. Everage temperature on dry season (^{o}C)	<10 - 21 30	22 - 24 20	25 - 27 10	28 - 30 5 *	N = 5
6.3. Amount month per year/on dry/humid	8 30	7 20 *	6 10	5 - <4 5	N = 15
6.4. Sun radiation (%) in rainy season	> 65 30	64 - 60 20 *	59 - 55 10	45 -<45 5	N = 20
6.5. Wind velocity in dry season (knot per hour)	Soft 1 - 2 30	Moderate 3 - 4 20 *	Less 5 - 6 20	Strong > 7 1	N = 25
6.6. Humidity (x/year)	< 60 30	61 - 70 20	71 - 80 10	> 81 5 *	N = 5

Total (6) = N = 110

7. **Main utilities and infrastructure**	Score	
7.1. Accomodation facilities (within radius of 75 km) Room number		
< 100	5	
101 - 250	10	
251 - 500	20	
501 - 750	30	N = 40
750 - > 1000	40 *	
7.2. Water supply		
(1) Supply		
a. very easy	40	
b. easy	30	
c. rather easy	20	N = 10
d. difficult	10 *	
(2) Distance between water sources and tourism object location		
a. 0 - 3	20	
b. 3,1 - 5 km	15	
c. 5,1 - 7 km	10	N = 5
d. > 7 km	5 *	

(3) Debit of water resources litre/second)		
a. > 2	20 *	
b. 1 - 2	15	
c. 0,5 - 0,9	10	N = 20
d. 0,5	5	
7.3. Electricity		
(1) Supply		
a. very easy	40	
b. easy	30	
c. rather easy	20	N = 10
d. difficult	10 *	
(2) Distance of electric power resource		
a. 0 - 3 km	20 *	
b. 3,1 - 5 km	15	
c. 5,1 - 7 km	10	N = 20
d. > 7 km	5	
(3) Electric energy (kw)		
a. > 50	20	
b. 30 - 50	15	
c. 10 - 30	10	N = 5
d. < 10	5 *	

Total (7) = N = 110

8. **Supporting Utilities and Infrastructure**	Present	Absent	Score
8.1. Other utilities			Absent = 5
a. Post & telegram office	*		Present 1 = 10
b. Telephone and facsimile	*		2 = 15
c. Fire station		*	3 = 20
d. Health facilities	*		4 = 25
e. Security		*	5 = 30
f. Workshop facilities		*	6 = 40
			N = 20
8.2. Activity facilities for at least of 10 persons (sport, recreation etc)			Present <3 = 5
			*3-5 = 10
			6-8 = 20
			9-10= 30
			>10= 40
			N = 10

8.3. Supporting facilities			Absent = 5
a. Restourant		*	Present 1 = 10
b. Shopping center /		*	2 = 15
market		*	3 = 20
c. Bank		*	4 = 25
d. Souvenir shop	*		5 = 30
e. Photo printing		*	6 = 40
f. Travel Bureau			
			N = 10
8.4. Special facilities			Absent = 5
a. For children		*	Present 1 = 20
b. For older			2 = 30
people		*	3 = 40
c. For handicapped			
people		*	N = 5
8.5. Institution			Absent = 5
a. Management Center		*	Present 1 = 20
b. Education & training			2 = 30
for employee		*	3 = 40
c. Employee cooperative		*	
d. Goverment instituti-			
on (local agency,			
head of village,			N = 5
subdistric head).	*		
	Total (8) =		N = 55

9. Market Potency	Score 40	30	20	10
9.1. Foreign tourist				
a. Amount per year	>10.000	5000-1000 *	1000-100	< 100
b. Country of origin	>5 states	4 states	3 states	< 2 states
c. Average duration of stay	* > 7 days	5 - 6 days	3-4 days*	< days
d. Expenditure per day (US $)	> 500	300 - 500		< 100
		N = 27,5		
9.2. Domestic Tourist		*	10.000-	
a. Amount per year	>100.000	50.000-10.000	1000	< 1000
b. Province of origin	*> 5 provinces	4 provinces	3 provinces.	< 2 states
c. Average duration of stay	> 7 days	5 - 6 days	3-4 days*	< 2 says
d. Expenditure per day (Rp)	> 500 thousand	300 - 500 thousend *	100 - 299 thousand	< 100
		N = 27,5		
9.3. Population within the radius of 75 kilometres	>300.000	200.000 - 300.000	100.000 - 200.000	< 100.000
a. Population density/km^2 + amount of population.	> 2000	2000 - 3000	1000-2000	< 100
	20 *	15	10	5
		N = 20		
b. Average income (per capita, in Rp. 1000)	> 1000 20	500 - 1000 15	500-200 10	< 200 5
		N = 20		
9.4. Travelling Facility: Distance with the regional/international main gate;	< 1000	1000 - 1500	1500-2000	> 2000
Biak, Ujung Pandang, Pekanbaru, Medan, Manado.	5	4	2	1
Surabaya	10	8	5	2
Denpasar	15	12	8	5
Jakarta	20	15	10	8
		N = 8		

	Present	Absent	Scoring
9.5. Promotion campaign			
a. Brochure, Film	*		Absent = 5
b. Travel agent	*		Present 1 = 10
c. Advertisement	*		2 = 15
d. Exhibition	*		3 = 20
e. Sufficient promotion fund		*	4 = 25
			5 = 30
			N = 25
9.6. Service satisfaction			Absent = 5
a. Service completeness		*	Present 1 = 10
b. Consumer satisfaction		*	2 = 15
c. Repeat visit	*		3 = 20
d. Comprehensive information	*		4 = 25
e. Positive image			5 = 30
			N = 15

Total (9) = N = 143

10. **Economic Relationship (within the radius of 75 kilometres)**

	Amount						
	0	1	2	3	4	>5	
	10	20	30	40	50	60	
10.1. With growth poles							N = 60
10.2. With other tourism object (different type)							N = 60

Total (10) = N = 120

11. **Welfare service**			
11.1. Health	Present	Absent	Scoring
a. Hospital		*	Absent = 10
b. Clinic/Public health centre	*		Present 1 = 20
			2 = 30
c. General Practitioner		*	3 = 40
			4 = 50
d. Dispensary/Drug store		*	5 = 60
			N = 20

11.2. Education			Absent = 10
a. Primary scholl	*		Present 1 = 20
b. Junior high scholl	*		2 = 30
c. Senior high school		*	3 = 40
d. College school/ University		*	4 = 50
e. Course		*	5 = 60
			N = 30
11.3. Security			Absent = 10
a. Security guard/Civilion defense	*		Present 1 = 20
b. Police/Military	*		2 = 30
c. Tourist-Guide	*		3 = 40
d. Life safe guard		*	4 = 50
			5 = 60
			N = 40
		Total (11) =	N = 90

2. Investment			
12.1. Invesment opportunity	Present	Absent	Scoring
a. For operation (goverment and private)	*		Absent = 10 Present 1 = 20 2 = 30 3 = 40 4 = 50
b. For conservation and maintenance of ecotourism area	*		N = 30
c. Invesment facilities			
d. Invesment procedure guideline		*	
12.2. Development of Invesment (Rp. per year)			
- > 1 million	* 60		
- 500 million - 1 billion	50		
- 300 million - 500 million	40		
- 100 million - 300 million	30		
- < 100 million	20		N = 60
		10	
		Total (12) =	N = 90

13. Organization management	Score		
13.1. Status & organization of management			
a. State-owned corporation/joint venture	50		
b. Private corporation	40		
c. Government institution	30	*	
d. Village	20		N = 30
e. Not available		10	
13.2. Amount of employee (people)			
- > 45	20		
- 31 - 44	15		
- 16 - 30	10		
- 3 - 15	5	*	N = 5
- < 3	1		
13.3. The minimum employee income per month			
- > Rp. 100.000	20	*	
- Rp. 80.000 - 99.000	15		
- Rp. 60.000 - 79.000	10		N = 20
- < 60.000	5		
13.4. Status of employee			
- > 50 % permanent employee	20	*	
- > 50 % daily wage earner	15		
- > 50 % side job	10		N = 20
- > 50 % seasonal employee	5		

Total (13) = N = 75

14. Financial Management	Present	Absent	Scoring
14.1. Availability budget for :			Absent = 1
a. Administration	*		Present 1 = 5
b. Maintenance		*	2 = 10
c. Development	*		3 = 20
d. Operation	*		4 = 30
e. Marketing/promotion	*		5 = 45
f. Pollution control and damage		*	6 = 50
			N = 30

14.2. Sources of fund			
a. 100% visitor contribution	40		
b. >50 % visitor contribution	30		
c. 50 % subsidy	*20		
d. 50 % grant			
e. No sources of fund available	10 1		N = 20

Total (14) = N = 50

15. **Service Management**	Present	Absent	Absent = 1 Present 1 = 30 2 = 25 3 = 20 4 = 15 5 = 10 6 = 5
15.1. Service quality			
a. Fast		*	
b. Hospitality	*		
c. Capability in communication		*	
d. Capability in giving information	*	*	
e. Correct/politeness			N = 25
f. Information officer /public relation		*	
15.2. Language proficiency			Present 1 = 5 2 = 10 3 = 15
a. Local language	*		
b. Indonesian language	*		
c. Foreign language		*	N = 10
15.3. Maintenance and service facilities			
a. Information facilities	*		Absent = 1 Present 7 = 35 6 = 30 5 = 25 4 = 20 3 = 15 2 = 10 1 = 5
b. Rest area	*		
c. Parking area	*		
d. Public sanitation	*		
e. hygienic facilities		*	
f. Source of electricity		*	
g. Visitors' statistics		*	N = 20

15.4. Planning and controlling damage/pollution a. Development plan b. Environmental Impact Assessment c. RKL & RPL d. Feasibility Study	* * *	*	Absent = 1 Present 4 = 40 3 = 30 2 = 20 1 = 10 N = 30
15.5. Management qualification based on experience in the fields of: a. Conservation of nature-based tourism b. Socio-economic and and business	Year > 10 8 6* 4 < 4 > 10 8 6 4 < 4 N = 30 25 20 15 10		N = 30
	Total (15) =		N = 115

16. Cost and Revenue	Present	Absent	Scoring
16.1. Cost a. Personnel cost < 25 % b. Conservation cost > 50 % c. Promotion cost > 5 % d. General cost > 20 %	 * *		Absent 10 Present 1 = 40 2 = 35 3 = 30 4 = 25 N = 35
16.2. Revenue a. Subsidy b. Visitor constribution c. Profit d. Donation	* 	 * * *	Absent 10 Present 1 = 40 2 = 35 3 = 30 4 = 25 N = 30
16.3. Cash flow a. Deficit every year b. Defisit during last five years c. Defisit during last two years d. Break even point e. Surplus every year	Score * 10 20 25 30 40		N = 10

16.4. Travelling cost (transport, lodging, food, shopping)			
a. Very expensive	5		
b. Expensive	*10		
c. Moderate/reasonable	15		
d. Cheap	20		N = 30
e. Very cheap	25		
		Total (15) =	N = 85

17. **Impact on Regional Economic Developmet**	Score		
17.1. Create job and business opportunities			
a. Support new business	25		
b. Expant the existing	*20		
c. Create new job opportunities	15		N = 20
d. Relocate manpower from other regions	10		
17.2. Income growth			
a. Local community income increase >100 %	30		
b. Local community income increase between 50 - 99 %	25		
c. Local community income increase <50 %	*20		N = 20
d. No increase of local community income	15		
e. Income is transferred to other regions	10		
17.3. Productivity and efficiency of utilized resources			
a. Productivity increases > 100 %	30		
b. Productivity increases 50 - 99 %	25		
c. Productivity increases < 50 %	*20		
d. No increase of productivity	15		
e. Efficiency is increased	10		N = 20
f. No increase of efficiency	5		

17.4. Economic/business information			
a. A lot of information	20		
b. Sufficient	15		
c. Poor	*10		
d. Difficult to find/ not available	5		N = 10
		Total (17) =	N = 70

18. **Prominent Cultural Inheritance**	Present	Absent	Scoring
			Absent = 5
a. Geology		*	Present 1 = 10
b. Ethnic		*	2 = 20
c. Archaeological object		*	3 = 30
d. Religion/belief		*	4 = 40
e. Custom and tradition		*	5 = 50
		Total (19)=	N = 5
19. **Community Development**			
a. Programme of community development	30		
b. Community participation	25		
c. Utilization of tourism objects by local community	*20		
d. Development of small - scale business for local community	15		
e. Prahibition for local community to intervere	5		
		Total (19)=	N = 20

B. SUMMARY OF EVALUATION

The preparation of an evaluation criteria is an effort to express quantitative value to the elements which influence Bunaken National Ocean Park as nature-based-tourism object.

To evaluate the figures of the result of evaluation, it should be graded within range of grade as follows

No.	Value	Grade
1	≥ 86	very good
2	75 - 85	good
3	60 - 74	fair
4	< 60	poor

The application test conducted by using the Format of Evaluation Criteria on the elements and the grading system, reached an evaluation result as shown in the following matrix :

EVALUATION RESULT MATRIX
TEST APPLICATION OF EVALUATION CRITERIA
FOR BUNAKEN OCEAN PARK

ASPECT	MAXIMUM VALUE	WEIGHT	WEIGHTED MAXIMUM VALUE	RESULT VALUE	WEIGHTED VALUE	GRADING VALUE (%)	GRADE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
A. PHYSIC ECOLOGICAL							
General attractiveness	170	6	1.020	120	720	70,6	moderate
1. Natural beauty	30	6	180	25	150	83,3	good
2. Diversity of the attractive natural resources	25	6	150	20	120	80,0	good
3. Uniqueness of natural resources	30	6	180	30	180	100,0	very good
4. Unity, harmony and sustainability	25	6	150	5	30	20,0	poor
5. Alternatives of recreational opportunities/utilization	20	6	120	10	60	50,0	poor
6. Cleaness of location, water and air (no pollution)	20	6	120	10	60	50,0	poor
7. Carrying capacity for visitors	20	6	120	20	120	100,0	very good
Ocean park attraction	200	6	1.200	175	1.050	87,5	very good
1. Safety	30	6	180	30	180	100,0	very good
2. Variation of fauna	30	6	180	25	150	83,3	good
3. Under sea beauty	25	6	150	25	150	100,0	very good
4. Unity (%)	25	6	150	20	120	80,0	good
5. Uniqueness and sensitivity	20	6	120	10	60	50,0	poor
6. Water clarity	20	6	120	20	120	100,0	very good
7. The amount of object points and it's depth (m)	20	6	120	20	120	100,0	very good
8. View condition and comfortability	15	6	90	10	60	66,7	moderate
9. Intensive use area (ha)	15	6	90	15	90	100,0	very good
Beach attraction	140	6	840	80	480	57,1	poor
1. Beach beauty	35	6	210	25	150	71,4	moderate
2. Type of sand	30	6	180	15	90	50,0	poor
3. Beach wide (in metre) measured in the low tide and the length of beach is at least of 1 km	25	6	150	10	60	40,0	poor
4. Variation of activities	30	6	180	15	90	50,0	poor
5. Comfortability	20	6	120	15	90	75,0	good

ASPECT	MAXIMUM VALUE	WEIGHT	WEIGHTED MAXIMUM VALUE	RESULT VALUE	WEIGHTED VALUE	GRADING VALUE (%)	GRADE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Accessibility	160	5	800	130	650	81,3	good
1. Road condition and distance							
a. Inland road (km) from the nearest city	50	5	250	50	250	100,0	very good
b. Sea, river and lake transportation (km) from the nearest city	60	5	300	60	300	100,0	very good
2. Transportation system							
a. Amount of vebicle	20	5	100	10	50	50,0	poor
b. Frequency	20	5	100	10	50	50,0	poor
c. Amount of seat per week	20	5	100	5	25	25,0	poor
Environmental condition	205	5	1.025	130	650	63,4	moderate
1. Land use planning	25	5	125	5	25	20,0	poor
2. Land ownership status	20	5	100	10	50	50,0	poor
3. Population density/occupation							
a. Population	20	5	100	20	100	100,0	very good
b. Unemployment	20	5	100	10	50	50,0	poor
c. Occupation	20	5	100	20	100	100,0	very good
4. The attitude of local community	20	5	100	15	75	75,0	good
5. Education	20	5	100	15	75	75,0	good
6. Mess media availability	20	5	100	10	50	50,0	poor
7. Biological resources potentiality	20	5	100	15	75	75,0	good
8. Physical resouces potentiality	20	5	100	10	50	50,0	poor
Climate condition	200	4	800	110	440	55,0	poor
1. Amount of favorable months	50	4	200	40	160	80,0	good
2. Average temperature on dry season (°C)	30	4	120	5	20	16,7	poor
3. Amount month per year / on dry / humid	30	4	120	15	60	50,0	poor
4. Sun radiation (%) in rainy season	30	4	120	20	80	66,7	moderate
5. Wind velocity in dry season (knot per hour)	30	4	120	25	100	83,3	good
6. Humidity (x / year)	30	4	120	5	20	16,7	poor

ASPECT	MAXIMUM VALUE	WEIGHT	WEIGHTED MAXIMUM VALUE	RESULT VALUE	WEIGHTED VALUE	GRADING VALUE (%)	GRADE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Main utilities and infrastructure	200	2	400	110	220	55,0	poor
1. Accomodation facilities (within radius of 75 kms) room number	40	2	80	40	80	100,0	very good
2. Water supply							
a. Supply	40	2	80	10	20	25,0	poor
b. Distance between water source and tourism object location	20	2	40	5	10	25,0	poor
c. Debit of water resources	20	2	40	20	40	100,0	very good
3. Electricity							
a. Supply	40	2	80	20	40	50,0	poor
b. Distance of electric energy resources	20	2	40	10	20	50,0	poor
c. Electric energy (kw)	20	2	40	5	10	25,0	poor
Supporting utilities infrastructure	200	2	400	55	110	27,5	poor
1. Other utilities	40	2	80	20	40	50,0	poor
2. Activity facilities for at least of 10 persen	40	2	80	10	20	25,0	poor
3. Supporting facilities	40	2	80	10	20	25,0	poor
4. Special facilities	40	2	80	5	10	12,5	poor
5. Institution	40	2	80	10	20	25,0	poor
Sub – group	**1.475**		**6.485**	**910**	**4.320**	**66,6**	**moderate**
B. SOCIO – ECONOMIC							
Market potency	200	5	1.000	143	715	71,5	moderate
1. Foreign tourist	40	5	200	27,5	138	68,8	moderate
2. Domestic tourist	40	5	200	27,5	138	68,8	moderate
3. Popolation within the radius of 25 kilometres							
a. Population density/km^2 + amount of population	20	5	100	20	100	100,0	very good
b. Average income (per capita, in Rp. 1000)	20	5	100	20	100	100,0	very good
4. Travelling facility	20	5	100	8	40	40,0	poor
5. Promotion campaign	30	5	150	28	140	93,3	very good
6. Service satisfaction	30	5	150	15	75	50,0	poor

ASPECT	MAXIMUM VALUE	WEIGHT	WEIGHTED MAXIMUM VALUE	RESULT VALUE	WEIGHTED VALUE	GRADING VALUE (%)	GRADE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Economic ralations (within the radius of 75 kilometres)	120	5	600	120	600	100,0	very good
1. With growth poles	60	5	300	60	300	100,0	very good
2. With other tourism objects (different type)	60	5	300	60	300	100,0	very good
Welfare services	170	4	680	90	360	52,9	poor
1. Health	60	4	240	20	80	33,3	poor
2. Education	60	4	240	30	120	50,0	poor
3. Security	50	4	200	40	160	80,0	good
Investment	110	4	440	90	360	81,8	good
1. Investment opportunity	50	4	200	30	120	60,0	moderate
2. Growth of investment (Rp per year)	60	4	240	60	240	100,0	very good
Organization management	110	4	440	75	300	68,2	moderate
1. Status & organization of management	50	4	200	30	120	60,0	moderate
2. Amount of employee (people)	20	4	80	5	20	25,0	poor
3. The minimum employee income per month	20	4	80	20	80	100,0	very good
4. Status of employee	20	4	80	20	80	100,0	very good
Financial management	90	4	360	50	200	55,6	poor
1. Budget availability	50	4	200	30	120	60,0	moderate
2. Source of fund	40	4	160	20	80	50,0	poor
Service management	150	4	600	115	460	76,7	good
1. Service quality	30	4	120	25	100	83,3	good
2. Language proficiency	15	4	60	10	40	66,7	moderate
3. Maintenance and service facilities	35	4	140	20	80	57,1	poor
4. Planning and controlling of damage/pollution	40	4	160	30	120	75,0	good
5. Management qualification based on experience in relevant field.	30	4	120	30	120	100,0	very good

ASPECT	MAXIMUM VALUE	WEIGHT	WEIGHTED MAXIMUM VALUE	RESULT VALUE	WEIGHTED VALUE	GRADING VALUE (%)	GRADE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Cost and revenue	145	3	435	85	255	58,6	poor
1. Cost	40	3	120	35	105	87,5	very good
2. Revenue	40	3	120	30	90	75,0	good
3. Cash flow	40	3	120	10	30	25,0	poor
4. Travelling cost (transport, lodging, food shopping)	30	3	90	10	30	33,3	poor
Impact on regional economic development	105	3	315	70	210	66,7	moderate
1. Create job and business opportunities	25	3	75	20	60	80,0	good
2. Growth of income	30	3	90	20	60	66,7	moderate
3. Productivity and efficiency of utilized resources	30	3	90	20	60	66,7	moderate
4. Economic / business information	20	3	60	10	30	50,0	poor
Prominent cultural inheritance	50	2	100	5	10	10,0	poor
Communities development	30	4	120	20	80	66,7	moderate
Sub - group	1.280		5.090	863	3.550	69,7	moderate
Total Amount	2.755		11.575	1.773	7.870	68,0	moderate

Note : (6) = (5) : (3)

Based on the value of grading for each aspect which represents the value of their elements will give an interpretation on value of the grade. The grade is to be interpreted to weight a sub-element, an element, aspect and its totality.

The highlights of the result of evaluation may be presented as follows:

(1). The grade of its totality is fair (68)
(2). The grade of the ecological -physic aspect is fair (66,6)
(3). The grade of Social-economic aspect is fair (69,6)
(4). The grade of general attraction elements is fair (70,6)
(5). The grade of ocean park (coral reef) elements is very good (87,5)
(6). The grade of beach attraction elements is poor (57,1)

The above highlights of the result of evaluation reveals that the grade of its totality is fair, however on the ocean park aspect gives a very good grade with internationally unique which is a remakable tourism asset to be developed. The tourism development has a strategic role in supporting economic development. The incoming tourism will accelerate and multiply in creating the chain of various of tourism business. It means to increase the employment opportunities, income and foreign currency.

Furthermore the development of Bunaken National Ocean Park will contribute to the North Sulawesi tourism development to obtain additional income for the local government and community. The grading system of the evaluation creteria could provide valuable indication in the development planning process.
In the application, for example for development planning we should consider the relevant aspects to the Bunaken Ocean Park attraction as a focus of the objects, namely:

(1). Accessibility
(2). Environmental condition
(3). Main utilities and infrastructure
(4). Supporting utilities and infrastructure
(5). Management

Those elements represent the priority aspects to be developed.

Combination of those five aspects gives a fair grade, i.e. :

$$\frac{650 + 650 + 220 + 110 + 960}{800 + 1.025 + 400 + 400 + 1.400} = \frac{2.590}{4.025} = 64,3\ \%$$

An attractive tourism object should have a good grade or even very good grade for international tourism class.

Meanwhile there are some unchangeable elements, like climate and there are elements which are very difficult to change like general attraction elements and beach elements.
Through identification of the relevant elements with development plan, a realistic plan could be developed

Examples of development programme are as the following:

(1). Provide a regular sea transportaion to serve the visitors from Manado to Bunaken around trip.

(2). Land use and land right regulations.

(3). Development of infrastructure to provide fresh water and electric power.

(4). Improvement of tourist services, including guides, telecommunication, etc.

(5). Establishment of Authority to manage Bunaken Ocean Park professionally.

C. THE APPLICATION OF EVALUATION CRITERIA

The Evaluation Criteria format has been developed based analysis of existing various tourism evaluation criteria and experiences in identifying various tourism resources, was tested in Bunaken National Ocean Park within July 1993. The result is presented in the evaluation matrix.

By combining the values of sub-elements, elements and all aspects it is concluded that such format is able to indicate the value attached on the nature - based tourism resources and able to identify the problems, however, for the attraction aspect, the most specific attraction should be shown with its *uniqueness* besides its general attraction elements.

For the Bunaken National Ocean Park it is neccesary to expose the attraction of the ocean park as special elements as an international uniqueness.

From the application test, it is concluded that the evaluation criteria format can be applied to other nature-based tourism resources in general, with some modifications respects to their specific and general attractiveness

3.2. CRITICAL FACTOR ANALYSIS

PHYSIC-ECOLOGICAL ANALYSIS

A. GENERAL ATTRACTIVENESS

1. Natural beauty

Bunaken National Park embracing 5 islands located in front of Manado Gulf, those are Manado Tua, Bunaken, Montehage, Siladen, and Naeng and also including Arakan - Wawontulap seashore area with the total area of 9000 hectares which Bunaken Ocean Park as main part of it, is commonly dominated by open-sea and green protected forest view from those islands. The open sea characterized by relatively quiet waves and less sea transportation activities facilitates unhampered view toward all direction of the tourism objects. Scenery and panorama of the aforementioned islands are really enchanted owing to their natural and original environment condition.

Yet, local people housing mainly located at coastal areas and bungalows at Liang beach in Bunaken island consist of semi permanent type made from traditional building materials has detiorated the harmony with their surroundings.

2. Resources biodiversity

Flora

The group of islands forming Bunaken National Park are commonly in the status of protected forest area which part of them has been transformed to be conversion forest area.

This can be a logical consequences of shifting cultivation by outsiders transforming part of the protected forest area into coconut, fruit, wood and food-crop plantation. Coconut trees are the main vegetation found in this Bunaken National Park area. Whereas its native vegetations comprises: Morantee wood, canari, white iron wood, almond tree, sengon, rattan, swampy and mangrove ebony. Brackish area dominated by mangrove trees is still particularly exist at Montehage island.

Fauna

Fauna found at the forest in Bunaken National Park area are: black monkey, kingfisher bird, kus-kus, ocean pigeon. Fauna living inside the sea excluding abundant ornamental fishes are: dugong, dolphin, green turtle, and tortoise shell.

Whereas protected fauna stipulated by Wildlife Preservation Act and International Rule (CITES) living in the Bunaken National Park embraces types as follows.

List of wildlife protected by Wildlife Preservation Act or International Rule (CITES):

No.	Fauna	Latin terminology
1.	Dugong	Dugong dungan
2.	Dolphin	Order cetacca
3.	Green turtle	Chilonia midas
4.	Tortoise shell	Eremochelys imbricate
5.	Giant clam	Tridaona gigas
6.	Giant clam	Tridaona derasa
7.	Shell clam	Tridaona squamosa
8.	Clam	Tridaona maxima
9.	Clam	Tridaona crocea
10.	Clam	Hippopus hippopus
11.	Round brest (susu bundar)	Trochus nilaticus
12.	Black coral	Antipothes spp.
13.	Goat	Caccis carnuta
14.	Triton trumpet	Charonia vitonis
15.	Hollow Navtilus	Navtillus pompillus
16.	Alligator	Crocodylus parasus
17.	Black monkey	Madoaca Nigra
18.	Ocean pigeon	Stenidae

Source:

Beside ocean park, other objects such as geological and natural symptoms cannot be found.

3. Uniqueness

The Bunaken National Park generally consists of beutiful environment and some attractiveness such as natural view diversity. Tourism resources is such a great potency to attract people to visit that region. Potential attractiveness of Bunaken National Park lays at its unique ocean park offering something "has to be seen" by tourists respect to its natural beauty rarely found in the world. Its enchantment has already spreaded internationally. Interview toward foreign tourists interested in ocean park tourism will support this statement, of which most of them admiring the Bunaken ocean park's beauty.

Generally, they have ever visited other ocean park available in this world such as: Great Barrier Reef at Australia, Carabian sea and Atol in Maldives.

Bunaken ocean park has coral reef made from small-sized sea fauna having hard skeleton which living mutually together with small-sized sea flora and forming colony. Its hundreds species together form coral reef utilized by fishes as their shelter, place for food and proliferation. Biodiversity in form and color of this coral reef provide very enchanted view and scenery on this area.

4. Originality, Balance and Preservation

Components of Bunaken National Park are in general is no more original and tends to be deteriorated. This conditions are caused by people's activities, among others:

1) Mangrove forest cutting.

2) Implementation of protected forest conversion neglecting land conservation principles.

3) Coral exploitation as a building material.

4) Indirect damage toward coral reef which accidentally collided by ship keel and also by fish catching using explosive material.

5) Solid waste pollution from plastic material covering the surface of the coral reef which can kill them due shine to the lack of sun radiation.

6) The development of bungalows and housing along the coastal area have caused erosion of which its mud/clay layer has covered and mixed with the beach sand and make the sand become muddy if water passes through it.

5. Utilization alternatives

Bunaken National Park can be utilized as a:

1) Place for research and development in term of:

a) Oceanography around Bunaken island, especially to recover the damage ecosystem on coral reef.
b) Technology and productivity of fishery.
c) Agricultural pattern and its potentials.
d) Socio-economic and population study.
e) Nature-based tourism as a support and alternative of ocean park tourism.

2. Place for relaxation and sport

Its predominant tourists are from Manado and North Sulawesi which most of them intend to relax and recreation by enjoying original view and quiet atmosphere and also sightseeing the ocean park available on that area. Kind of sports found on that area are snorkeling and diving.

3. Place for investment development

It needs strong will to be the pioneer of investment in the field of tourism facilities and utilities supply such as:

a) Supply of ferry boat between Manado-Bunaken.
b) Establish supporting tourism facilities at Bunaken and its surrroundings in the form of lodging, restaurant, etc.
c) Continued promotion activities, locally, nationally, and internationally.

6. Location cleanliness

Generally, its natural condition is still relatively good. People movement and boat traffic are still low. These enable the location cleanliness can be sustained and preserved. There are barely sea waste founded. This favourable condition is supported by local government and Manado people's will to defend "Adipura Award" that has been gained four times consecutively of which it also has contribution to lessen the pollution on the rivers flowing to Manado bay.

7. Accommodation capacity

Carying capacity of Bunaken National Park reveals that this tourism area has to serve the needs of visitor optimally in such a way that tourism enjoyment and pleasure can be fulfilled with minimum negative impacts.

Observation concludes that its carrying capacity can still be preserved since number of visitor coming to that area is still limited. This will be better of if other tourism objects are developpd such as in Siladen beach and in other places where ocean parks are available such as around Manado Tua, Montehage and Naeng Island.

B. OCEAN PARK ATTRACTIVENESS

1. Safety

Generally, there are no unfavourable factors causing threat on safety such as: wildlife, strong wave, prohibiting traditions, etc. One of the existing factors might be the abrupt coral reef that can create worry on part of the tourists as they feel " drop down" to deeper sea when they enjoy the ocean park view from the glass box on the boat.

2. Variation of fauna

Some of unharming big-size fauna are available such as: dolphin, dugong and turtle. Whereas ornamentalfish and coral reef are abundant in species.

3. Ocean park beauty

Ocean park beauty emerges especially created by the existing types of sea flora and fauna making coral reef has variations in form, color, and structure.

Other beauty cannot be described in words is relief wall forming view harmony with variation of natural color and structure historically made from the emergence process of sea caves and abrupt coral long time ago.

4. Originality

The ocean park in Bunaken National Park has been degraded and slightly damaged. This is caused by people's activities such as:
a) Coral exploitation for building material.
b) Fish exploitation by explosive and poisonous material.
c) Damage on coral reef available at shallow seashore by accidentally collided with ship keel of falling anchor.

5. Uniqueness and sensitivity

Variation of relief, structure and color create natural beauty, enchantment and uniqueness on this ocean park. Due to its connection with the proliferation of water flora and fauna forming coral sea supported by some life aspects and threats, the ocean park is highly worth in term of its scientific value and scientific material sources for concerned parties such as LIPI, university, Directorate General of Fishery and others dealing with oceanography.

6. Water clarity

Water at the ocean park locations is generally clear, transparant and still not being polluted and the view is visible until over 60 metres depth and increase the value of natural enchantment.

7. Abundant locations of coral reef

The coral reef in Bunaken National Park spread out almost all locations around the island belonging to Bunaken archipelago such as: Manado Tua, Siladen, Bunaken, Montehage, and Naeng varied in form, color, structure and depth from 2 metres until over 30 metres. Among all of those islands, the coral reef in front of Bunaken Island is the most beautiful one. That coral reef generally can be enjoyed through under water glass box on the boat.

The following is as a description of coral reef available at Bunaken National Park area.

Area of coral reef available around the islands in Bunaken National Park

No.	Island	Width of coral reef area (hectare)
1.	Bunaken	662
2.	Manado Tua	412
3.	Silanden	81
4.	Montehage	1518
5.	Naeng	1053

8. View situation and comfortability

Beaches around the coral reef are generally supportive for nature-based tourism, such as: shady places, white-sand, and view to the open sea to its horizon boundary. There are some places such as in Liang which although as a centre of Bunaken National Park but their beaches have been polluted by mud coming from soil erosion during the construction of bungalows and other buildings. Control and management toward the whole buildings in Bunaken National Park must be implemented as soon as possible.

9. Intensive use

Bunaken National Park basically offer three types of tourism object, that is: Nature-based tourism, beach tourism, and the most important one: the ocean park.

Due to existing unutilized and unoccupied area, intensive use activities are still widely opened. Nowadays, centre of tourism activities is still located only at Liang beach in Bunaken Island.

C. BEACH ATTRACTIVENESS

1. Beach enchantment

Bunaken National Park covers group of islands consisting of Manado Tua, Bunaken, Montehage, Siladen, and Naeng and has enchanted beach horizon view backgrounded by greennes of protected forest area which most part of it has been conversed becoming coconut plantation, relief walls on certain places as a result of geological process forming an exotic view, and slightly-sloped sandy beach protected by shady trees such as Waru laut, Ketapang, etc.

On the other hand, the existence of relatively simple buildings seen as huts not in uniformity creates problem for the harmonious view toward the beach and its surroundings.

The above considerations can motivate to plan, regulate and control the construction of buildings at Bunaken National Park area, especially the ones at coastal area.

2. Type of sand

Type of sand at the beach around the group of islands forming Bunaken National Park is shlightly loamed. Whereas the one on Siladen island is higher in quality and potencial to be developed as beach tourism. On the contrary, the sand at Liang seashore around Bunaken Island has been mixed with mud from erosion due to the construction of cottages and other buildings around the coast of which it then creates muddiness on that area.

3. Wide of beaches

Beaches around the group of islands in Bunaken National Park are narrow in width, generally less than 50 metres and limits beach sport activities. Based on this condition, the suitable sport activities must be determined without disturbing the tourists enjoying and relaxing the beach.

4. Variation of tourists' activities

Owing to the existing of narrow beach, the tourists' activities is limited. The only ways to be done are: chatting each other under the shady trees.

5. Comfortability

Comfortability on the beach in general can be fulfilled due to lack of noise, absence of unpleasant smell, free from disturbing stone when walking along the beach, relatively clean area and also lees of ship or boat traffic.

D. DEGREE OF PHYSICAL EXTERNAL RELATIONSHIPS

1. Road condition

Almost all tourists expected to visit Bunaken National Park will pass through Manado city, either the ones from Manado city and North Sulawesi itself or the ones from other provinces and other countries. Most of domestic and foreign tourists utilize air transportation to reach Manado city which will then be continued to Bunaken National Park.

Public road is important to support the mobility in Manado city. The development of public road both in length and condition describe the transportation facilities to suport people mobility including the tourists visiting the Bunaken National Park.

List of public road length in Manado
1988 - 1991
Road length (in km)

Condition of road	1988	1989	1990	1991
Road I - IV	284,65	392,52	392,52	432,96
Moderate and good condition	262,44	377,05	306,34	432,96

Source: Public Work Agency - DATI II Manado

In 1993, the length and condition of the existing roads show better and improved. This can support the people's mobility and activities in Manado city.

2. Transportation system

Vehicles are commonly used for people's mobility and transportation in Manado. Whereas for the tourists, minibus and small-urban bus vehicles on scheduled routes are available.

Quantity of public vehicle operated in Manado as an indicator of sufficient transportation facilities is shown as the following.

Quantity of public vehicle in 1991

No.	Description	Small-urban bus	Minibus	Quantity
1.	Public vehicle (unit)	1.481	1.773	3.254
2.	Passenger capacity per day	59.240	99.288	158.528

Considering above figures compared with the number of population in Manado in 1990 (320.000 people), Manado's public transportation facilities can be classified as supplicient.

Motor boat and speed boat are available to transport the tourists from Manado to Bunaken National Park of which Liang beach at Bunaken Island as its destination terminal. Whereas departure terminals in Manado consist of: Tongkeina, Manado, Malalayang and Kolongan. There is still no regular route connnecting Manado and Bunaken island. The tourists who will visit Bunaken island should utilize rented motor boat or speed boat.

Number of tourists visiting Bunaken island, is still limited, at present it is estimated about 3000 foreign tourists and 4000 domestic ones per year, or average per day is about 20 tourits.

E. ENVIRONMENTAL CONDITION

1. Land use pattern

Although Bunaken National Park has owned legality as stipulated on the decree issued by Minister of Forestry No. 328/Kpts II/1986, but land status in the group of islands forming Bunaken archipelago is still not clear.

Logically, Bunaken National Park can be classified as protected forest area and part of it in as conversion forest considering that there are abundant coconut and fruit plantations managed by outsiders. Some of them claim that conversion land as customary land. Land use and land status pattern must be immediately determined and regulated. Based on above doubts, it can be concluded that there is still no land use pattern in Bunaken National Park area.

2. Population density

Total resident of Bunaken National Park area is 10.510 people, described as follows:

Bunaken Island	: 2.990 people
Manado Tua Island	: 2.280 people
Montehage/Siladen Island	: 1.800 people
Naeng Island	: 3.440 people
T o t a l	: 10.510 people

Whereas the size of group of islands at Bunaken National Park area is 2.785 hectares with the description as follows:

Bunaken Island	:	687 ha
Manado Tua Island	:	937 ha
Siladen	:	32 ha
Montehage	:	1.005 ha
Naeng	:	125 ha
T o t a l	:	2.785 ha

The average of population density is 3,7 people per hectare.

3. Occupation

The occupation of local community at Bunaken National Park area is as fisherman (53%), and the rests are as farmer (10%), animal breeder (6%), and others/not clear (31%).

Main cultivations are dry field rice, peanut, banana, jambu and durian. Whereas livestocks are: chicken, pig, cow, and goat.

In connection with tourism activities in Bunaken National Park, most of the local people are less participative, but not opposing.

4. People and its surroundings

Anartabh of education facility at Bunaken archipelago is up to primary school. Therefore, it is estimate that the average education background in that area is primary school.

The only media has been available is transistor radio.

Construction materials are not found in that area except timber.

F. CLIMATE CONDITION

Data on climate are available only for Manado. Since the distance to Bunaken is only about 1 km, the data can be used as a proxy, except for wind characteristics which have special influence on the islands :

- Average temperature: 27,5°C, minimum 21,9°C and maximum 30,9°C.
- Average rainfall: 2.985 mm.
- Average relative humidity: 80,8.
- Average atmospheric pressure: 1,011,3 mm Hg.
- Number of dry month: 6 months.
- Number of favourable month for visitor: 7-9 months per year.
- Wind characteristic:
  The wind blows in November-March to West-NorthWest direction with velocity of 4 knots; between May-September to South-SouthEast direction with the velocity of also 4 knots; whereas between April-October the wind direction is always in fluctuation. Storm and strong wind are rarely happenned in this area.

G. BASIC INFRASTRUCTURE

1. Accommodation

Accommodation facilities for both domestic and foreign tourists visiting Bunaken National Park are mostly located at Manado city and its surroundings. Most of the tourists do not stay overnight at Bunaken archipelago.

Number of room at starred hotel : 548 with its occupancy rate of 56,6%.
Number of room at non-starred : 298 with its occupancy rate of 20,25%.

Those data show that the accommodation facilities are sufficient at present.

2. Fresh water

There is lack of fresh water supply in Bunaken National Park, and to meet the tourists' need, it has to be supplied from Manado.

3. Electricity

Electric power will be supplied by PLN, where cable network have been installed, but not its diesel generating set unit. Cottages at Liang provided portable genset unit for night lighting to serve the overnight tourists.

H. SUPPORTING FACILITIES AND UTILITIES

Public service

Although still in limited capacity, telephone and faximile are available. Health facility is supported by one doctor and paramedic visiting periodically. Police unit is available in limited capacity due to existing secured condition.

Tourism agency has built public hall completed with toilet facilites and office building where training program is conducted. Facilities for beach activities are still limited. Supporting facilities are only food stalls managed by people from Manado. Government institutions are also limited consisting of head of village and its staff, tourism agency officials, forestry agency, and police.

I. POTENTIAL MARKET

1. Foreign tourist visit

At present, the number of foreign tourists visiting Manado is about 6.000 people per year, about 50% (3.000 people) of them are expected to visit Bunaken National Park. Beside enjoying beach tourism and enchanted view from and to Bunaken Island, they commonly do sightseeing through glass box, snorkeling (by using mask, fins, and snorkel) and scuba diving. Their native countries are various, that is Australia, USA, Netherland, Germany, and Japan. The average duration of stay in Manado/Bunaken is three to four days with average expenditure of USS 150 per day. The number of foreign tourist tends to increase more

than 15% per year, and in connection with increasing promotion and information distribution activities, it is expected that the percentage can be higher. Proper and favourable facilities must be planned to be built immediately. Besides Bunaken, they are interested in other national parks and tourism objects available in North Sulawesi Province as well.

2. Domestic tourist potency

In accordance with the increase of population and income, the number of domestic tourists visiting Bunaken is also increasing. Nowadays, more or less 30.000 people per year visit Manado/Minahasa, 15% of them visit Bunaken. They come from provinces in Sulawesi Island and from Jakarta; with average duration of stay of 3-4 days and average expenditure of Rp. 120.000 per day (for lodging, local transportation, food, and shopping). Local people of North Sulawesi are potential as tourists of Bunaken National Park.

Considering that the population density of Manado city is about 2.050 people per km^2, its population growth reachs 4% per year (1,6% internal growth and 2,4% urbanization growth) and its total population is 320.600 people (census 1990), then local market potential is ligh. It is supported by the existing income per capita about Rp 1.000.000 per year.

Though there are many other attractive alternatives, the Bunaken ocean park has ligh priority for the tourists to be visited.

Besides being accessible by plane form airports at Eastern part of Indonesia, Manado is also accessible from international airports such as Denpasar (1.700 km) and Jakarta (2.500 km), usually with transit in Ujung Pandang. This multigate air policy will stimulate and facilitate the prospective visit to Manado which is in increasing tendency (in 1991, 102.731 pax arrive at Manado, or in average 9.000 pax per month).

Due to lack of fund, promotion of Bunaken nature-based tourism is still limited only by distributing leaflet supported by the development of tourism agencies (such as NDC, Morex, Barracuda). Other promotion activities such as advertising are still lacking.

Tourists' perception toward Bunaken is positive, even most of them conduct return visit due to strong attractiveness of Bunaken ocean park and its white-sandy beach. Inspite of that favourable condition, service facilities and informations still need to be improved before their visit.

J. EXTERNAL ECONOMIC RELATIONS

External economic relations in Bunaken area is improving, either with growth poles and other cities in North Sulawesi Province (such as Manado, Tondano, Bitung, Tomohon, Likupang, Kotamubago) or with other tourism objects (different types). The relations is in of tourism traffic, supply of tourism facilities and utilities, trade, communication, technological development, science, and monetary transaction. The greater external economic relations will support the development of tourism and economic utilization in Bunaken tourism area.

K. WELFARE SERVICE FACILITIES

At Bunaken archipelago, health facilities are still loaking as there is only one public health sub-centre on each village served only by one para-medic (the doctor himself is rarely to visit). Health service still fully depends on the facilities available in Manado. Tourists' accident and disease practically cannot be directly handled in the location.

Likewise, formal education facility is available junior high school level. Tourists and local people safety are handled by security guard/civilan defense unit, guide and life guard coming along with the tourists assigned by concerned tourism agent.

Sub-balai KSDA cooperated with NRM/USAID project have planned to manage Bunaken tourism area professionally including the supply and improvement of facilities and utilities (guard post, monitoring tower, working hall, communication equipments), elucidation, training course for management staff and also for local people.

L. INVESTMENT OPPORTUNITIES

At present, some investors have set their sights on certain locations to be developed as a resort, park, lodge and other tourism facilities, along the beach around Tanjung Pisok (Molas), Telling, Tasikria, Arakan, Kumu, Poosa, along the boulevard of Manado city, and also Bunaken (Liang) and Siladen beach. Investor group from Japan and some big-scale entrepreneurs from Jakarta have conducted survey and study for that investment schemes. To prevent negative impact from this investment, zoning, building code, rules, institutions and other monitoring instruments must be set up and determined immediately. Investment facilities, investment procedure guideline and business information must also be covered. Besides tourism facilities and conservation, the investment must include operational and maintenance activities for the tourism area comprehensively.

Nowadays, delegation of management authority model from local government to private party has been implemented to develop and operate the existing tourism facilities.

In fiscal year of 1993/1994, the number of required investment to finance the design and development of Bunaken facilities and utilities will be over Rp 1 billion. To achieve that figure, intensive, integrated and cross sectoral promotion are needed. Investment program must be arranged without neglecting ecological conservation principle and people's participation.

M. INSTITUTIONS (MANAGEMENT, FINANCE, AND SERVICE) *)

Formally, management of Bunaken area is on the hand of Sub-Balai KSDA of North Sulawesi Province under authority of Balai KSDA Sulawesi headquartered in Palu which vertically under authority of Ministry of Forestry. Whereas Tourism Service of North Sulawesi Province, Kodya Manado and Kabupaten Minahasa are responsible in the development activities in tourism sector on that area. Fishery Directorate General and Local Service are involved in developing fishery sub sector. NRM/USAID project cooperated with Ministry of Forestry and USAID which its office at Sub-Balai KSDA North Sulawesi, is preparing Bunaken area management plan including local people and its management staff development.

*) Analysis for 3 elements: organisation management, finance management, and service management.

Joint management board consists concerned institutions and private sector might to be formed so that there is certain entiny who is responsible in the development of Bunaken area and in the coordination of its management activitics.

Presently, role of private sector (tourist agent) in guiding tourism activities at Bunaken tourism area is dominant, whereas role of village and local people still to be increased. Government institutions play a role in determining the development plan and ecological conservation policy. The number of personnel including management staff need to be increased in accordance with the development of conservation, socio-economic and tourists activities. Their productivity, loyalty, and responsibility have to be improved by paying attention to their satus and incentive.

Budget fund is still limited and given priority to finance administration, facilities and utilities, equipment maintenance, operation, development and promotion. Its allocation for conservation and local people's socio-economic life improvement is small and give priority to finance extension works and training (non formal) for local community cadres. There is no particular fund to mitigate pollution and existing ecological and physical environment degradation.

Source of fund to finance the above activities is limited (fund from DIP and USAID) since the activities are dependend depencence on government subsidy, whereas tariff regulation hasnot been put into effect (although fare for tourists has been determined). In the future, the retribution either from tourists or investors/entrepreneurs and other taxes and levies are expected to give more contribution into the financial budget.

Respect to the service capability, tourist visit goes smoothly supported by hospitality and friendly attitude of local people and tourism agent. But this condition is not supported by communication capability and informations, yet those factors are needed by (prospective) tourists. Officials ability in mastering foreign language is still limited. Considering those problems, service and maintenance facilites must be improved, including information facilites, clealiness facilities, sources of information and statistics on tourists characteristic and numbers.

In fart, there has been many efforts to improve the management, as many studies have been condugted including development and management plan, environmental impact analysis and environmental managemant plan (RKL). Those studies must be directed more on making detailed problem solution and management plan which will be implemented by authorized institution.

As a minimum requirement, top management of Bunaken management institution should have qualification and experience in the field of natural resources conservation (ocean park and coastal area) and socio-economic micro regional development at least 6 years repectively and supported by professional staff on respective field.

N. FINANCIAL

It is very difficult to estimate cost and revenue of entire tourism activities in Bunaken tourism area. The available data is only about budget (DIP) for Bunaken National Park management project. The total budget for one fiscal year is Rp 217.723.000 comprises Rp 149.423.000 from central government and Rp 68.300.000 from USAID. This project is managed by Sub-Balai KSDA North Sulawesi. Besides this budget, there is fund of about Rp 1 billion used for mapping activities at Bunaken area excluding the NRM project which also funded by USAID and Ministry of Forestry/Bappenas to prepare Bunaken management plan. From the total Budget (DIP), 8% is for administration, 20% for facilities and utilities construction, 40% for Bunaken National Park development and utilization activities, 10% for honorarium and the rests for providing information and training activities for local people and also for financing operation and maintenance activities.

Compare with the scope of work of Bunaken National Park Management activities, such as ecological conservation, maintenance and rehabilitation and development of local people's socio-economic, allocation cost for conservation, promotion and personnel is relatively small. This can be understood as source of income is limited and fully rely on subsidy and contribution. Retribution from tourists and investors and operational profit hasn't been existing yet. This lack of fund condition is taken place every year.

Meanwhile, transportaion cost to reach the Bunaken tourism area is relatively high. For foreign tourist, it costs at least US$ 65 per day (for tourism package consisting of diving, snorkelling and seat cost). For domestic tourist, boat transporation cost from Manado to Bunaken reaches Rp 30.000 per person per day (round trip). This doesn't include lodge, food and shopping cost during staying in Bunaken/Manado. Under water glass box boat is available for rent at Rp. 20.000 per hour

Since there has not been a Management authority operating commerciaally and professionally, it is difficult to assess the financial success of conservation and socio-economic activities in Bunaken tourism area.

O. IMPACT ON REGIONAL ECONOMIC DEVELOPMENT *)

If administratively Bunaken belong to Kodya Manado region (Kecamatan Molas), economically Bunaken area is part of economic activities in Kodya Manado itself and Kabupaten Minahasa.

Tourism activities to, from and in Bunaken area depend on Manado city. Lodging, transportation, food and beverage supply, tourism agent, fresh water supply, health, education and training facilities fully rely on economic units available in Manado and Minahasa in the mainland. Cottage, restaurant, boat trasportation, scuba diving and snorkelling service business are owned and managed by entrepreneurs from Manado, not by native people of Bunaken.

*) Analysis from 3 element: regional economic development, cultural inheritance and people development.

Increase in number of of tourist will be followed by increase in various needs, tourism activities are expected to expand, and further will support the expansion of existing economic units, stimulate new business activities, create new job opportunities and involve more local people of Bunaken with additional training.

Based on land ownership capital and improved human resources, business of lodging, retaurant, souvenir, transportation, documentation, information, guide, life-guard, etc. can be enhanced by local people with or without any cooperations with outside parties.

As an illustration, the existing lodging business consists of 20 cottages with the capacity of 40 persons per day, completed with a simple restaurant. Room rate per night is Rp 10.000 - Rp 15.000 per person, whereas food and beverage can create average income of Rp 100.000 (profit about 25%).

Income from boat transportation service, stall and souvenir selling is assumed less than Rp 100.000 per day. Presentation of roasted fish (barracuda) by local fisherman is one of a unique attraction.

Total investment for all economic units in Bunaken (Liang seashore) is appraised as Rp 125 million (cottage, ship, stall, etc.) of which it creates income about Rp 13 million per month with profit of 20%. Assuming that 80% of that income is consumed, then the mulitplier effects in the local economic activities will be 5, with slow acceleration process, as part of that income is transferred to Manado area. Large part of fishing yields are sold to markets in Manado and its surroundings, so these fishing activities is out of the tourism activities.

Though activities at Bunaken tourism area is increasing, the local people's income doesn't increase more than 50% per year, of which part of it is transferred out, as part of economic actors are from outside the tourism area. Most of local people work as cheap labor.

Due to the lack of economic activities, utilization of natural resources is still limited, so that its productivity and efficiency is still low. It also means that the net benefit of natural resources ulitization is economically low. To increase economic and business activities, distribution of information must be widened, followed by extension works and training on business and economy for local people including access to capital, planning and development of tourism market.

NRM project in Manado has prepared development plan to develop local people's socio-economic life including fishing business and its marketing, information about ocean park conservation, small-scale business, training course, and community development modelity.

At present, degree of local community (about 10.000 people) participation in nature-based tourism area is still insignificant, whereas on the other hand fishing and gardening remain dominant as their main occupation.

3.3. RECOMMENDATION AND CONCLUSION

A. RECOMMENDATION.

1. The attractiveness of Bunaken nature-based tourism area need to be more exposed and promoted especially the white-sandy beach located at Siladen island, ocean park around Manado Tua, Montehage, and Naeng Island and abrupt deep coral reef around Bunaken and Siladen Island. This ocean park attractiveness is strengthened by beautiful free view (to islands, Manado, open sea, and to Minahasa mainland), flora and fauna diversity, relatively cool climate, water clarity, and absence of noise and unpleasant smell.

   On the land of the island there is no interesting and attaractive view. At the distance there are merely coconut plantation in the mainland and mangrove trees on unoccupied coastal area. There is no jungle or dense forest to be sightseen. Yet, information about existing attractiveness must be distributed properly to the wider potential consumers and to the prospective tourists.

2. Bunaken tourist area (Phase I and II, stipulated by the Decree issued by the Minister of Forestry No. 730/91) must be developed, especially in term of its faciltities and utilities including transportation, equipment for ocean park sightseeing, lodging, restaurant, information facilities and tourism and environmental signals either in Siladen beach or in Molas, Tasik Ria, Arakan and Wawontulap and also along the boulevard of Manado beach.

   These physical constructions must pay attention to environmental protection and local people participation principles. The existence of zoning regulation, building code and other management and monitoring instruments will strengthen those principles.

3. The existing spatial planning and land-use planning (including zoning) must be immediately finalized, detailed and implemented effectively. Land ownership status including coastal area must be determined.

4. To enhance human resource quality and to improve communication and information effectivity, education, communication media and training facilities for local communities must be upgraded.

5. In term of physical development, supply of fresh water, electricity, sanitation, human settlement and other supporting facilites and utilities both for local people and for tourists must be given first priority.

6. The following must be paid attention in overcoming pollution, ecological degradation and other negative impacts:

   a. Causes of pollution, degradation and negative impacts must be identified prop erly (those conditions are caused by building construction at hilly coastal area, settlement construction by mangrove trees cutting, overfishing, utilization of explosive materials such as bomb/dynamite in fishing, mining activities to search for building material and gold at coastal area and by removal of litter to the coastal area and to the sea).

b. Apply effective technology to rehabilitate and recover the coastal and coral reef damage.

c. Provide signals, rules and prohibitions to protect the ecosystem and environment.

d. Provide training for local people to participate on social, economic and business activities related to nature-based tourism activities.

7. To maximize benefit from nature-based tourism activities investment on feasible projects are promoted through:

   a. Disemination of feasibility study, plan and are management concept, biodiversity research report and zoning regulation.

   b. Business information.

   c. Information packages about new investments and their prospect in the future.

   d. Information about capability and potential local community participation.

   e. Guideline and procedure of investments.

8. Arrangement on retribution/fare for tourist, trader, boat transportation and investor in the area and arrangement on standard tariff or trip cost.

9. Improvement on the capability of official, personnel staff, manager, tourism service personnel, conservation official and community development worker.

10. External economic relationship between Bunaken area and regional economic growth poles and also with other tourism objects in North Sulawesi province as well as with the more attractive ones in other regions.

11. Environmental Management Plan (RKL) and Environmental Monitoring Plan (RPL) for Bunaken tourism area must be reviewed in such a way that their implementations are effective in solving the problems either in term of ecological rehabilitation and conservation or benefit enhancement for local people.

12. Security aspect including safety for visitors and ecology, to that the value of the tourism area will become higher and higher.

13. Development of alternative eco-tourism object in the region beside Bunaken such as bird-park, marine tourism and unprotected wild-life hunting.

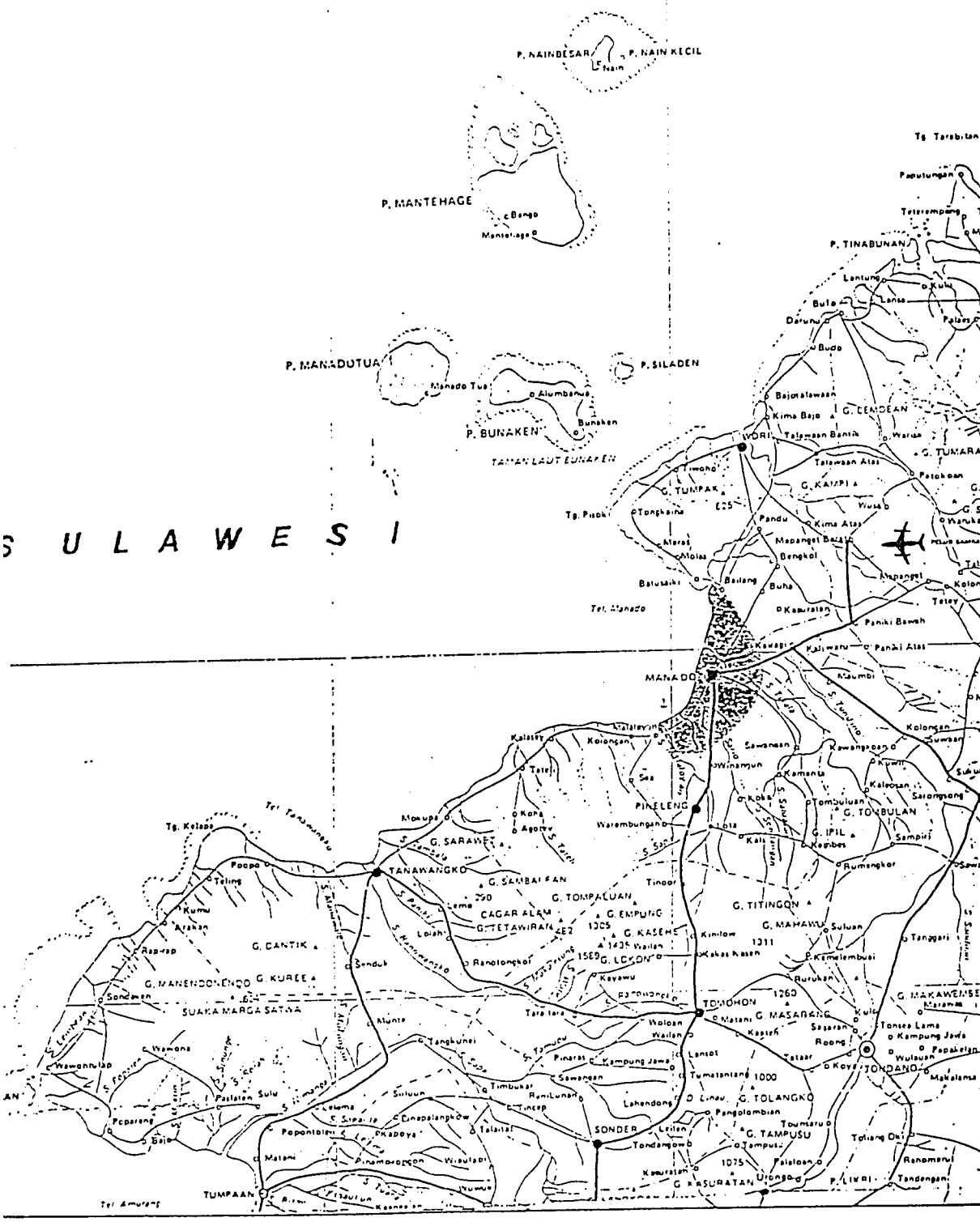
14. Establishment of on special authority to develop Bunaken area (ideally is a joint venture between government and Private Sector, so that there is a certainty on who is really responsible and managing the area especially to utilize the potential capability eco tourism object into a reality.

Main function of this Authority Body is to regulate and direct the private sector activity in the tourism activities management, especially related to ecological conservation and utilization of the natural resources by local community.
Cross sectoral institutions will participate in creation a more conducive climate.

The Authority is also providing physical infrastructure, information kit on guidelines and procedures for investment, business information and information on the potential tourism object. This Authority is professionally handling the development and management of the Bunaken Ocean Park.

B. CONCLUSION

Based on the test application result, discussion and Seminar, it is concluded that the Evaluation Criteria could be replicated in general for all nature-based tourism objects, with some modification, especially for the uniqueness of the attractiveness of the tourism object.



REFERENCE

1. Proyek pembuatan desain pengembangan obyek wisata pantai Bunaken dan Manado Tua - Proyek pengembangan pariwisata Sulawesi Utara, Ditjen Pariwisata - Dep. Perhubungan - PT. IDA CIPTA - 1982

2. Marine tourism Plan for Indonesia
   Euroconsult - Gitarama Consortium, 1988

3. Natural resources management project, project paper appendices
   USAID, Jakarta, 1990

4. Environmental Planning for Manado and Minahasa
   USAID/Research Triangle Institute, 1992

5. Arahan umum penetapan kawasan konservasi
   Ditjen PHPA, Departemen Perhubungan, Mei 1993

6. Proyek pengembangan Taman Nasional Laut Bunaken TA 1992/1993 Sub. Balai KSAD Sul-Ut, April 1992

7. Ringkasan Rencana Pengelolaan Taman Nasional Laut Bunaken, Maret 1993

8. Pedoman Penyusunan Analisis Daerah operasi obyek wisata alam Dit. Taman Nasional Hutan wisata Ditjen PHPA Dep. Hub. Januari 1993

9. Kodya Manado dalam angka 1991, kantor Statistik Kodya Manado

10. Monografi Kodya Manado, Bappeda Kodya Manado, 1992

11. Laporan tahunan 1992/1993, Sub Balai Konservasi Sumber Daya Alam Sulawesi Utara.

12. Livelihood strategies and Marine Resource use among residents Bunaken National Park, North Sulawesi Jiil.M. Belsky, BAPPENAS - Ministry Forestry, December 1992.

13. Kriteria obyek dan Daya tarik wisata Budaya proyek pengembangan industri pariwisata - Dep. Pariwisata Pos & Telekomunikasi, Direktorat Jenderal Pariwisata 1990/1991.

14. Laporan tahun 1990, Dinas Pariwisata Propinsi daerah tingkat I Sulawesi Utara.