



Mapping and Prioritizing Sites for Ecotourism Development

Sustainable Landscape and Ecotourism Project in the Cardamom
Mountains and Tonle Sap Landscape

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Approaches

- ▶ Identification of criteria and clusters for evaluating the suitability of ecotourism sites for ecotourism development and investment;
- ▶ Data collection and entering data (statistical reports, terrain recordings, different plans, cartographic documents, etc.) into GIS;
- ▶ GIS-MCDA focusing on the standardization, weighting (using AHP) and summary analysis of all critical criteria and clusters of criteria with supporting fundamental; *and*
- ▶ Reviewing the spatial analysis results using sensitivity analysis and final decision-making for selecting and prioritizing ecotourism sites for development and investment throughout the reviewing process (weighting exercise using AHP).

Multi-Criteria/Layers for Ecotourism Site Assessment



Ecotourism Development Spectrum Based Assessment

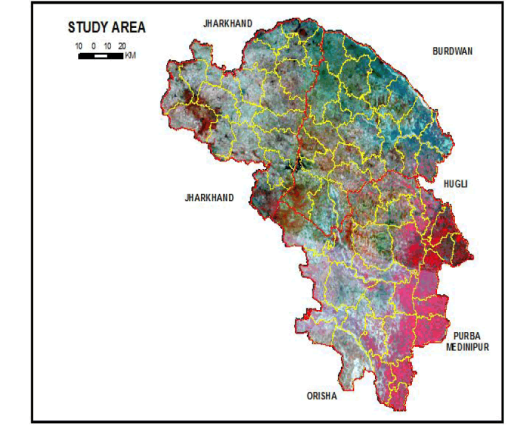
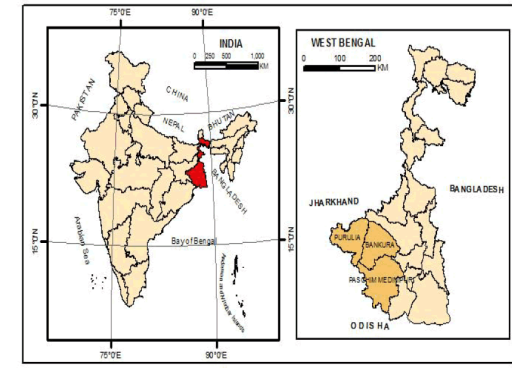


Figure 1: Location Map.

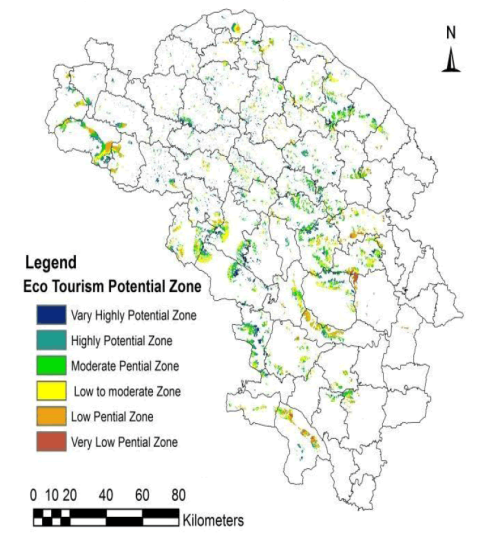
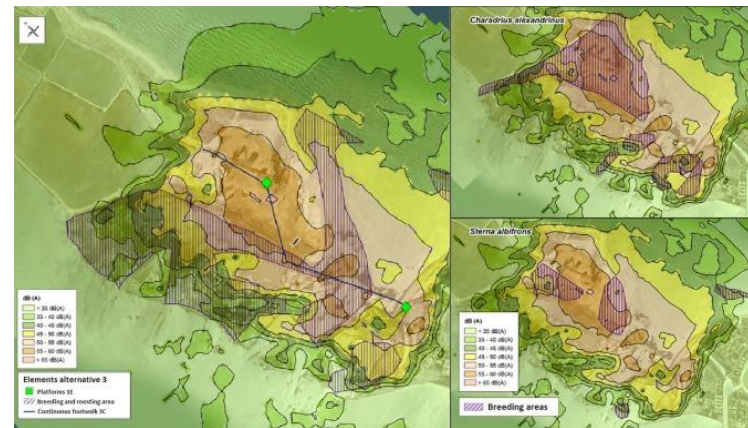


Figure 4: Suitable Zoning Map for Ecotourism Development with Future Tourist Spot.

Cluster	Criteria	Factors
Geography / Topography	Slope and orientation of the site	<ul style="list-style-type: none"> • State the direction of the site's orientation • Level of slope (how steep) of the site
	Visibility of the site	<ul style="list-style-type: none"> • View of site from access roads • View of site from other sides, etc.
	Elevation	<ul style="list-style-type: none"> • How high or low is the site against sea level? • Panoramic and secluded ambience and coziness of the site • Air quality of the site
	Accessibility	<ul style="list-style-type: none"> • Access from a main road or water body? • Main attractions and their accessibilities from the site?
Natural	Precipitation	<ul style="list-style-type: none"> • The amount of precipitation received by the site in different weather conditions as well as seasons
	Temperature	<ul style="list-style-type: none"> • The average temperature of the site in seasonal context
	Geology cover and ease of construction	<ul style="list-style-type: none"> • Availability of local building materials • Level of earthwork required
	Soil cover	<ul style="list-style-type: none"> • Type of soil • Stability of soil
	Protection from weather	<ul style="list-style-type: none"> • Site protected from extreme weather events or natural disasters
	Vegetation type and density	<ul style="list-style-type: none"> • Type of vegetation and underlying values in the area • Size of vegetation coverage of the site
	Land use / tenure / security	<ul style="list-style-type: none"> • Land / resource tenure in the area • Land / resource use in the area • Community cohesion
Environmental	Sensitive area / reservation	<ul style="list-style-type: none"> • Type of site as a protected area (PA) • Zoning of site / PA
	Water availability	<ul style="list-style-type: none"> • Distance from water resources • Existence and amount or sufficiency of water supply
	Environmental impact	<ul style="list-style-type: none"> • Possible harm to fauna and / or flora resources • Possible impact on surface and / or underground water • Possible impact on geology and soil • Possible impact on natural landscape
	Distance from human settlements	<ul style="list-style-type: none"> • Proximity of populated or urban areas to the site
	Distance from roads	<ul style="list-style-type: none"> • Existence of inter- and intra-connection of roads in the area
Socio-economic	Distance from cultural sites	<ul style="list-style-type: none"> • Proximity of cultural sites / attractions (events, objects, and activities) to the site

	Distance from negative factors	<ul style="list-style-type: none"> • Existence or future plan for road construction, power / telephone lines, fences, lighting projects, mining, landfills and / or other industrial activities in, within or in close proximity to the site
	Access to infrastructural services	<ul style="list-style-type: none"> • Access to electricity grid system (station and sub-station) • Access to internet / telecom services • Access to water supply
	Market demand	<ul style="list-style-type: none"> • Number of annual arrival of domestic and international tourists • Total annual tourism receipts from domestic and international tourists
	Socio-cultural impact	<ul style="list-style-type: none"> • Possible impact on socio-cultural fabrics / diversity and integrity / activities • Possible impacts on culture of indigenous people as well as on indigenous vegetation • Arrangements to be made for solid waste and wastewater management in the area

- Initially, 21 criteria divided into 4 main clusters were used as a framework to collect statistical and non-statistical thematic data for entering into GIS.

List of Selected Criteria and Sub-Criteria for GIS-MCDA and AHP Based Suitability Analysis

- ▶ Due to sequential technical meeting with relevant stakeholders, particularly the Expert-Input Weighting Exercise, couple with the complexity and availability of data from different official sources, only 10 main criteria and 17 sub-criteria or factors were selected for the geo-spatial analysis of site potential for ecotourism development and management.

No.	Criteria	Sub-Criteria	Selection & Remarks
1	Accessibility	Elevation	Yes
		Slope	Yes
		Distance from roads	Yes
		Seasonality	No, n/a
		Distance from airport	Yes
		Distance from major townships / communes / districts / provinces	Yes
2	Attractiveness	Scenic value	No, n/a
		Aesthetic value	No, n/a
		Uniqueness	No, n/a
		Cultural importance	Yes
		State of conservation (type of protected area)	Yes
3	Land use / tenure	Forest cover	Yes
		Clear state-owned land only	No, n/a
		Free from land conflict	No, n/a
		Free from land encroachment	No, n/a
4	Sensitivity of location	No mining concessions	Yes
		No ELCs	Yes
		No core / conservation zone (no zoning system)	No, n/a
		Proneness to flooding	No, n/a
		Proneness to fire	No, n/a
5	Access to services	Water availability (distance from water sources)	Yes
		Electricity (distance from electricity grid)	Yes
		Telecommunication (distance from phone cable line)	No, n/a
		Health Services (distance from health care centers)	Yes
6	Existing ecotourism / CBT / CBET sites	Existing ecotourism / CBT / CBET sites	Yes
7	Socio-economic	Community access (distance to the site)	No, n/a
		Impact potential (potential beneficiaries)	Yes
		Poverty	No, n/a
8	Market demand	Seasonality	No, n/a
		Existing visitors	Yes
		Gov't priority for tourism	No, n/a
9	Biodiversity	Biodiversity hotspot (distance from PAs)	Yes
		Wildlife and species diversity	No, n/a
		Conservation potential	No, n/a
10	Diversity of ecotourism offering	Diversity of ecotourism offering	No, n/a

Approaches (*cont.*)

- ▶ The GIS-MCDA process used for the spatial analysis involved the following key activities:
 1. Checking all existing or available statistical and non-statistical data;
 2. Identifying critical missing data and developing an immediate plan with MoE for rapid additional data collection;
 3. Designing suitability table and questionnaire;
 4. Designing pairwise analysis questionnaire;
 5. Entering data into GIS;
 6. Standardizing and comparing data;
 7. Running / overlaying spatial analysis using AHP suitability simulation;
 8. Analyzing and interpreting the results / maps of standardized criteria (refer to the table above) of the study sites;
 9. Using the analyzed data to support or guide stakeholder consultations and discussions on selection of priority sites for ecotourism development and investment; *and*
 10. Report writing.

Suitability criteria rating matrix for ecotourism potential assessment

Nº	Reselected Criteria	Sub-Criteria	Unit	Value (Range)	Suitability Criteria Rating			
					High	Moderate	Marginal	Not Suitable
1	Accessibility	Elevation	Meter (m)	0 - 1813 m	1000-1813; 10-100	100-700	700-1000	<10
		Slope	Degree	0 - 35 %	0-5%	5-25%	25-35%	>35%
		Distance from roads	Kilometer (km)	0 - 20 km	0-5 km	5-10 km	10-20	>20 km
		Seasonality						
		Distance from airport	Kilometer (km)	0 - 40 km	0-20 km	20-30 km	30-40 km	> 40 km
		Distance from major townships / communes / districts / provinces	Kilometer (km)	0 - 30 km	0-10 km	10-20 km	20-30 km	>30 km
2	Attractiveness	Scenic value	n/a	n/a	n/a	n/a	n/a	n/a
		Aesthetic value	n/a	n/a	n/a	n/a	n/a	n/a
		Uniqueness	n/a	n/a	n/a	n/a	n/a	n/a
		Cultural importance	Kilometer (km)	0 - 45 km	0-15 km	15-30 km	30-45 km	> 45 km
		State of conservation (type of protected area)	n/a	n/a	n/a	n/a	n/a	n/a
3	Land use / tenure	Forest cover	Forest classes	Evergreen, semi evergreen	Forest (26-50% density)	Forest (6-25% density)	Forest (1-5% density)	Rangeland and others
		Clear state-owned land only	n/a	n/a	n/a	n/a	n/a	n/a
		Free from land conflict	n/a	n/a	n/a	n/a	n/a	n/a
		Free from land encroachment	n/a	n/a	n/a	n/a	n/a	n/a
4	Sensitivity of location	No mining concessions	Kilometer (km)	0 to >20 km	> 20 km	10-15 km	5-10 km	0-5 km
		No ELCs	Kilometer (km)	0 to >20 km	> 20 km	10-15 km	5-10 km	0-5 km
		No core / conservation zone (no zoning system)	n/a	n/a	n/a	n/a	n/a	n/a
		Proneness to flooding	n/a	n/a	n/a	n/a	n/a	n/a
		Proneness to fire	n/a	n/a	n/a	n/a	n/a	n/a
5	Access to services	Water availability (distance from water sources)	Meter (m)	0 - 2000 m	0 - 300 m	300 - 600 m	600 - 1200m	1200 - 2000 m (> 2000 m = very unsuitable)

Expert Inputs in Weighting Exercise for Suitability Criteria and Sub-Criteria Rating

No.	Selected Criteria	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	Expert 9	Expert 10	Expert 11	Expert 12	Total Average Scores
1	Accessibility	9	20	10	15	10	15	10	10	15	30	15	15	14
2	Attractiveness	16	10	5	10	10	10	15	20	10	20	15	20	13
3	Land use/tenure	9	5	20	10	10	10	10	10	5	5	10	5	9
4	Sensitivity of location	4	5	10	10	10	10	3	10	5	5	15	10	8
5	Access to service	5	10	10	5	15	10	5	15	5	10	10	10	9
6	Existing ET sites	4	5	10	15	5	20	2	5	20	5	5	10	9
7	Socio-Economic	14	5	10	10	15	5	10	10	5	5	5	5	8
8	Market demand	12	5	10	5	5	10	10	5	5	5	10	5	7
9	Biodiversity	18	25	10	15	15	5	30	10	10	5	10	10	14
10	Diversity of ET offering	11	10	5	5	5	5	5	5	20	10	5	10	8
Total Weighted Scores		100	100	100	100	100	100	100	100	100	100	100	100	100

Source: Expert input meeting for weighting exercise organized by the World Bank and Ministry of Environment on 27th February 2019

Nº	Reselected Criteria	Sub-Criteria	Total Suitability Score (100 points for all of the classes)	Suitability Criteria Rating			
				High	Moderate	Marginal	Not Suitable
1	Accessibility	Elevation	14	9 to 10	6 to 8	3 to 5	< 3
		Slope					
		Distance from roads (5)					
		Seasonality					
		Distance from airport (4)					
	Distance from major townships / communes / districts / provinces (5)						
2	Attractiveness	Scenic value	13	9 to 10	6 to 8	3 to 5	< 3
		Aesthetic value					
		Uniqueness					
		Cultural importance					
		State of conservation (type of protected area) (13)					
3	Land use / tenure	Forest cover (land cover 2016) (9)	9	9 to 10	6 to 8	3 to 5	< 3
		Clear state-owned land only					
		Free from land conflict					
		Free from land encroachment					
4	Sensitivity of location	No mining concessions (4)	8	9 to 10	6 to 8	3 to 5	< 3
		No ELCs (4)					
		No core / conservation zone (no zoning system)					
		Proneness to flooding					
		Proneness to fire					
5	Access to services	Water availability (distance from water sources) (4)	9	9 to 10	6 to 8	3 to 5	< 3
		Electricity (distance from electricity grid) (1)					
		Telecommunication (distance from phone cable line)					
		Health Services (distance from health care centers) (4)					
6	Existing ecotourism / CBT / CBET sites	Existing ecotourism / CBT / CBET sites	9	9 to 10	6 to 8	3 to 5	< 3
7	Socio-economic	Community access (distance to the site)	8	9 to 10	6 to 8	3 to 5	< 3
		Impact potential (potential beneficiaries) (8)					
		Poverty					
8	Market demand	Seasonality	8	9 to 10	6 to 8	3 to 5	< 3
		Existing visitors 2017 (8)					
		Gov't priority for tourism					
9	Biodiversity	Biodiversity hotspot (distance from PAs) (14)	14	9 to 10	6 to 8	3 to 5	< 3
		Wildlife and species diversity					
		Conservation potential					
10	Diversity of ecotourism offering	Diversity of ecotourism offering	8	9 to 10	6 to 8	3 to 5	< 3
Total Weighted Scores			100				

Summary table of remaining criteria and their suitability rating derived from the literature review and validated by consultative expert input meeting

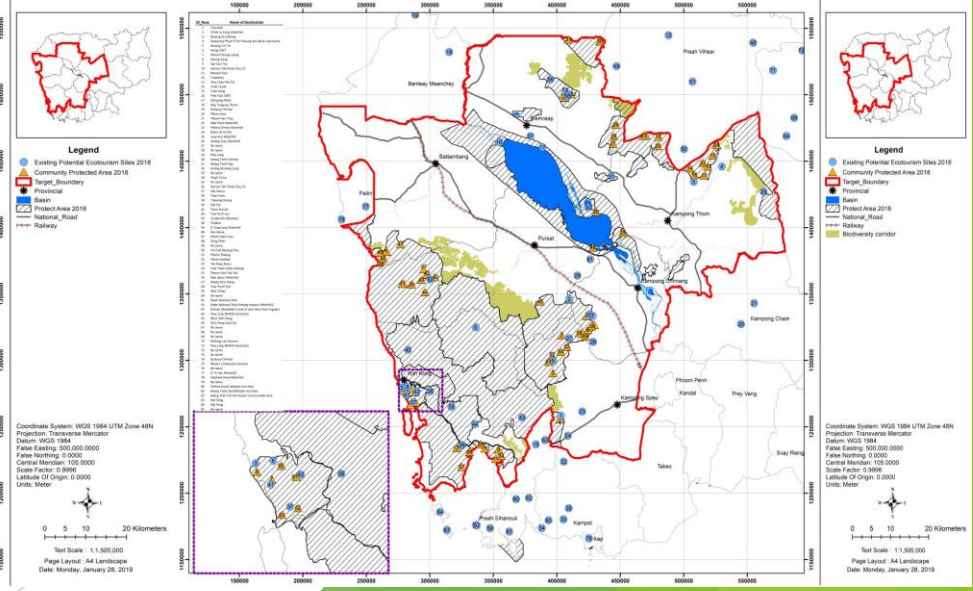
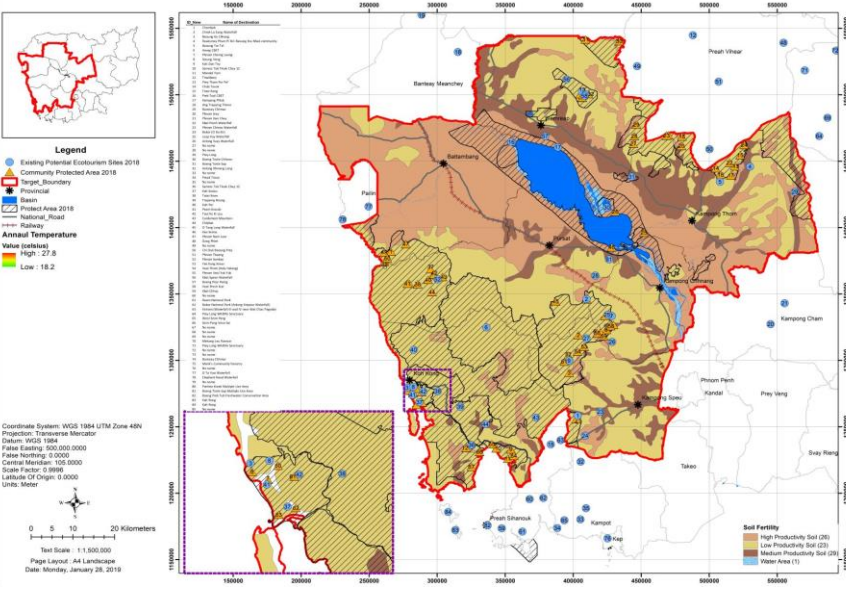
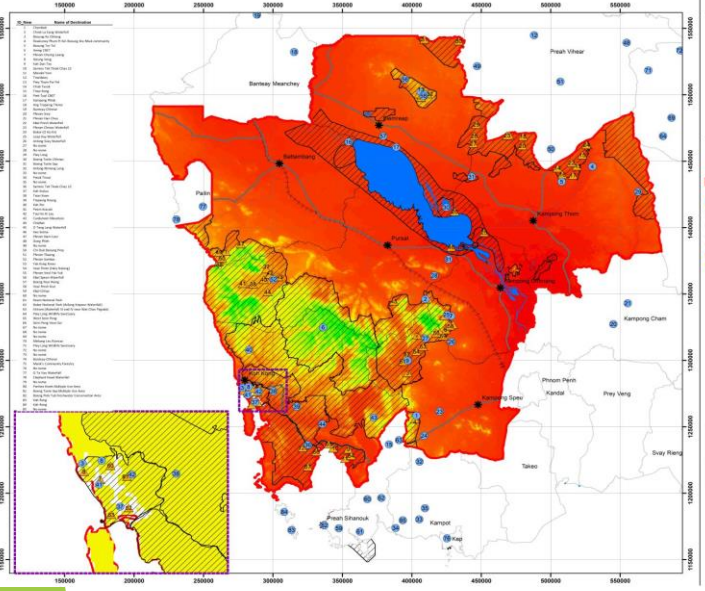
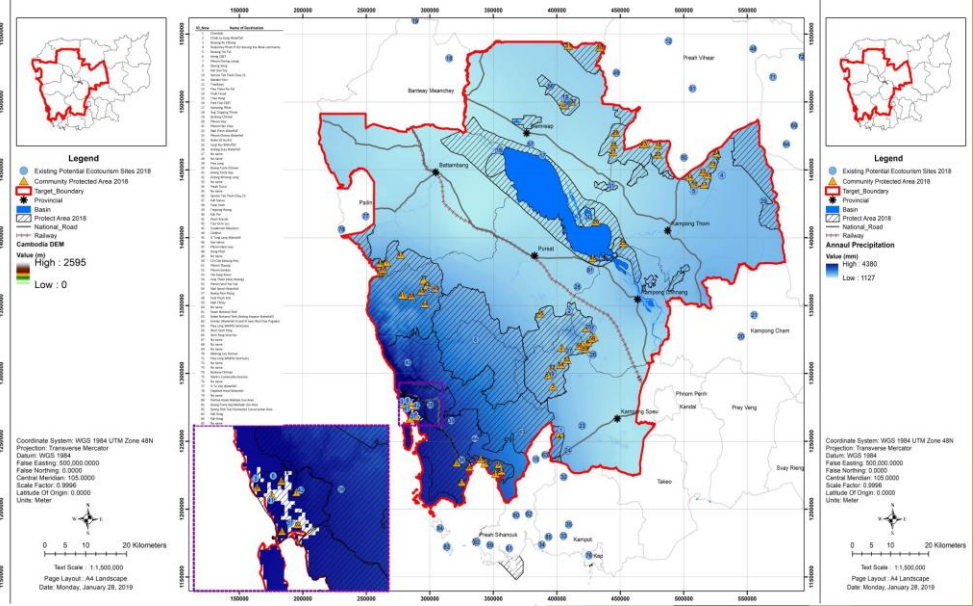
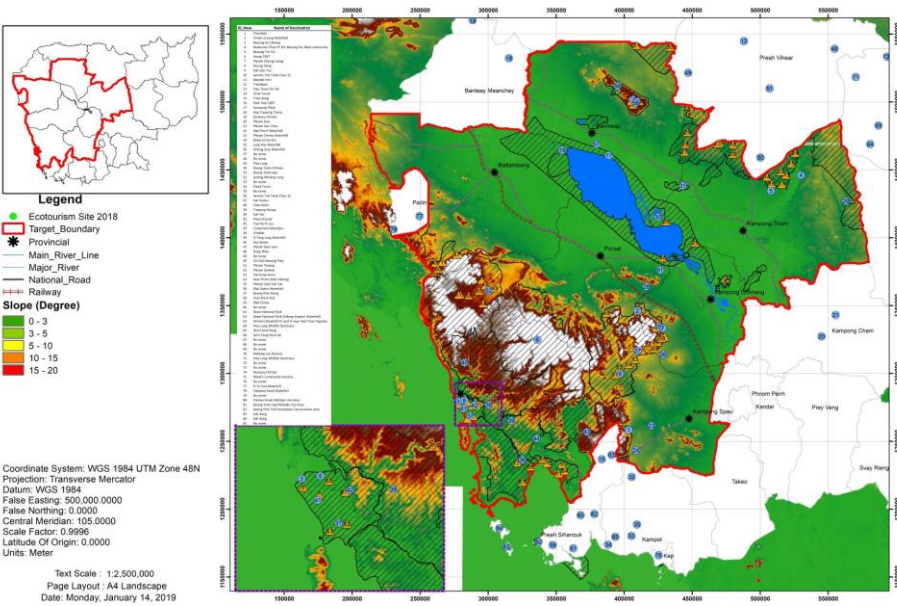
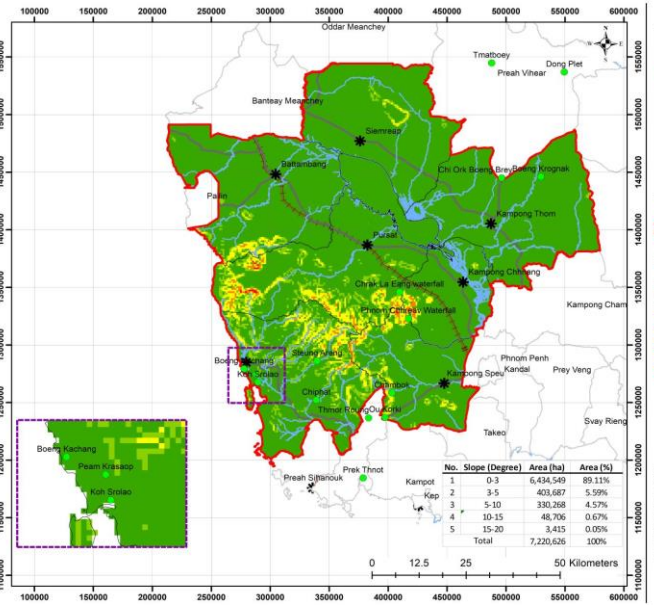
No.	Reselected Criteria	Sub-Criteria	Unit	Value (Range)	Criteria Suitability Rating			
					High	Moderate	Marginal	Not Suitable
1	Accessibility	Distance from roads	Kilometer (km)	0 - 20 km	0-5 km	5-10 km	10-20	>20 km
		Distance from airport	Kilometer (km)	0 - 40 km	0-20 km	20-30 km	30-40 km	> 40 km
		Distance from major townships / communes / districts / provinces	Kilometer (km)	0 - 30 km	0-10 km	10-20 km	20-30 km	>30 km
2	Attractiveness	State of conservation (type of protected area)	Category of protected area	Marine National Park, Multiple Use Management Area, National Park, Natural Heritage Site, Protected Landscape, Ramsar Site, Wildlife Sanctuary	Wildlife Sanctuary, Protected Landscape, Ramsar Site	Multiple Use Management Area, National Park, National Park, Natural Heritage Site		Outside protected area
3	Land use / tenure	Land cover 2016	Land cover class	Surface water, Mangrove forest, Flooded forest, Deciduous forest, Orchard or plantation forest, Evergreen broadleaf alpine, Evergreen broadleaf, Evergreen needle leaf, Evergreen mixed forest, Mixed evergreen and deciduous, Urban and build up, Cropland, Rice paddy, Mudflat and intertidal, Mining, Wetlands, Barren	Wetlands, Flooded forest, Evergreen broadleaf alpine, Evergreen broadleaf, Evergreen needle leaf, Evergreen mixed forest, Mixed evergreen and deciduous,	Deciduous forest,	Orchard or plantation forest, Cropland, Rice field	Mining, Mudflat and intertidal, Urban and build up
4	Sensitivity of location	No mining concessions	Kilometer (km)	0 to >20 km	> 20 km	10-15 km	5-10 km	0-5 km
		No ELCs	Kilometer (km)	0 to >20 km	> 20 km	10-15 km	5-10 km	0-5 km

5	Access to services	Water availability (distance from water sources)	Meter (m)	0 - 2000 m	0 - 300 m	300 - 600 m	600 - 1200m	1200 - 2000 m (> 2000 m = very unsuitable)
		Electricity (distance from electricity grid)	Meter (m)	0 - 2000 m	0 - 300 m	300 - 600 m	600 - 1200m	1200 - 2000 m (> 2000 m = very unsuitable)
		Health Services (distance from health care centers)	Meter (m)	0 - 2000 m	0 - 300 m	300 - 600 m	600 - 1200m	1200 - 2000 m (> 2000 m = very unsuitable)
6	Distance from existing potential ecotourism / recreational sites (2018)	Existing ecotourism site 2018 V.2	Kilometer (km)	0 - 30 km	0-10 km	10-20 km	20-30 km	>30 km
7	Socio-economic	population (commune level)	People		10 k-20k	5k - 10k	1k-5k	<1000
8	Market demand	Total existing visitors 2017 by province	Tourist arrivals at provincial level		1000k-2000k	100k-1000k	50k-100k	<50k
9	Biodiversity	Biodiversity hotspot (distance from PAs)	Kilometer (km)	Inside to 20 km	Inside to 5 km	5-10 km	10-20	>20 km

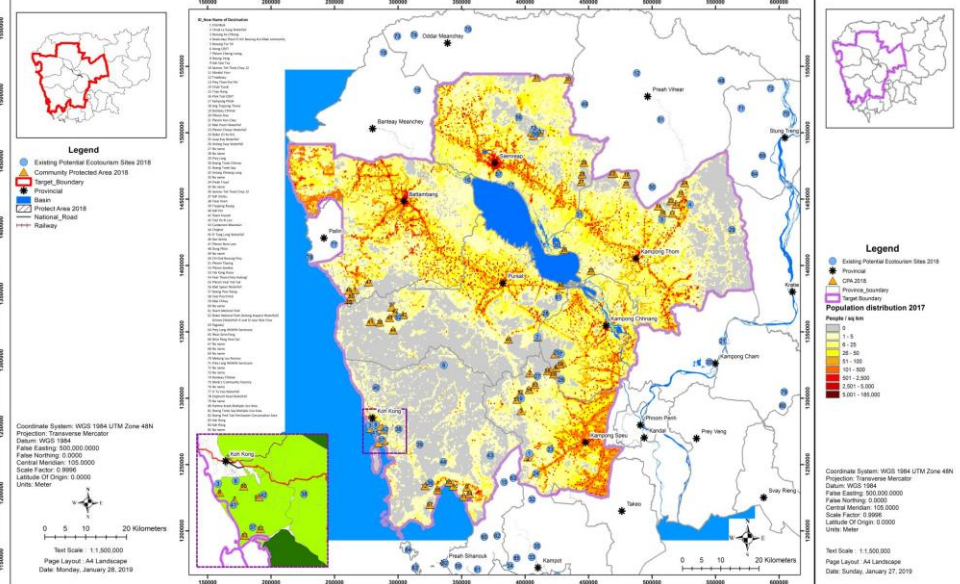
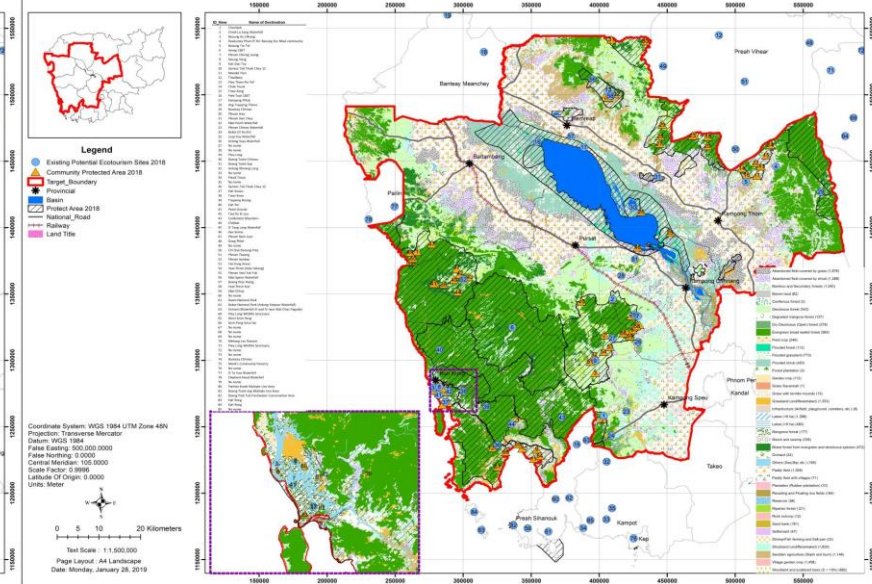
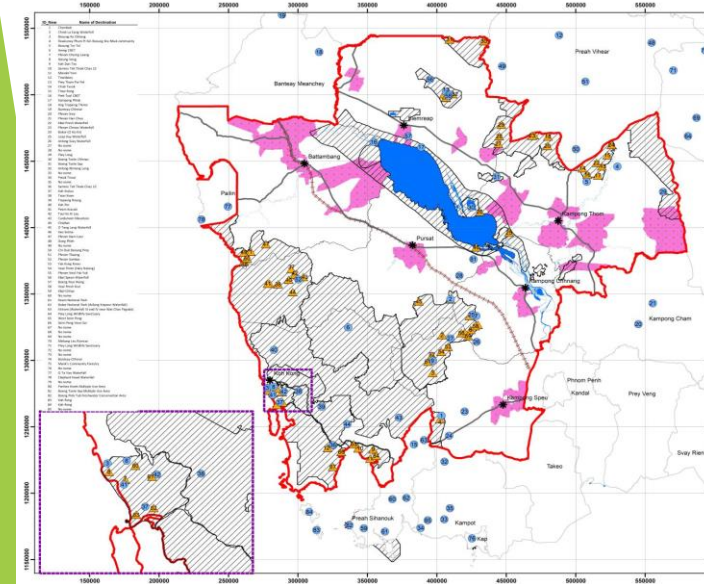
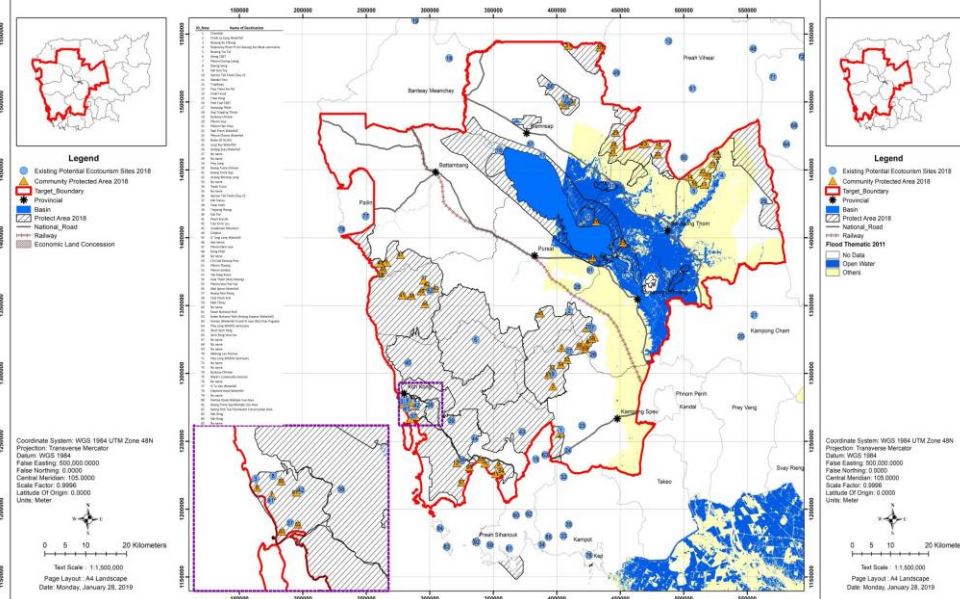
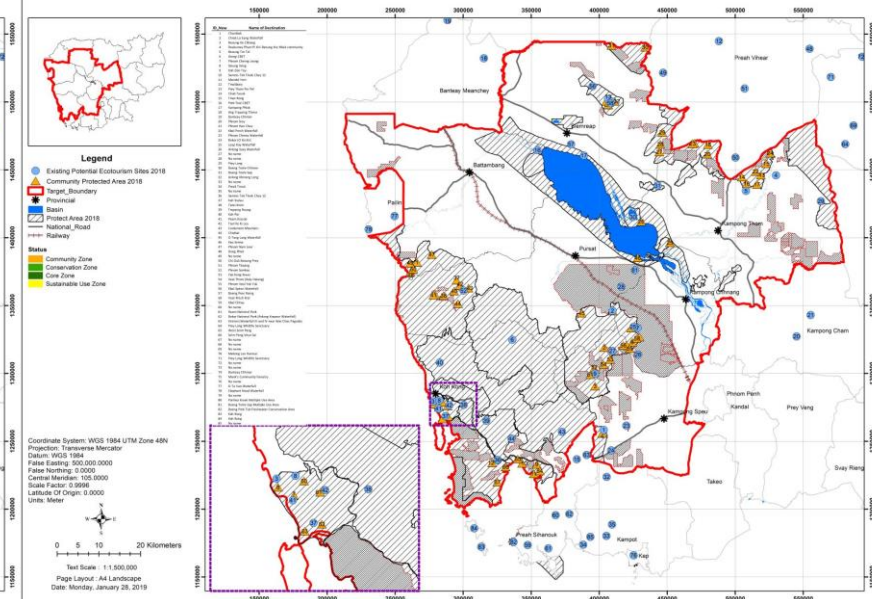
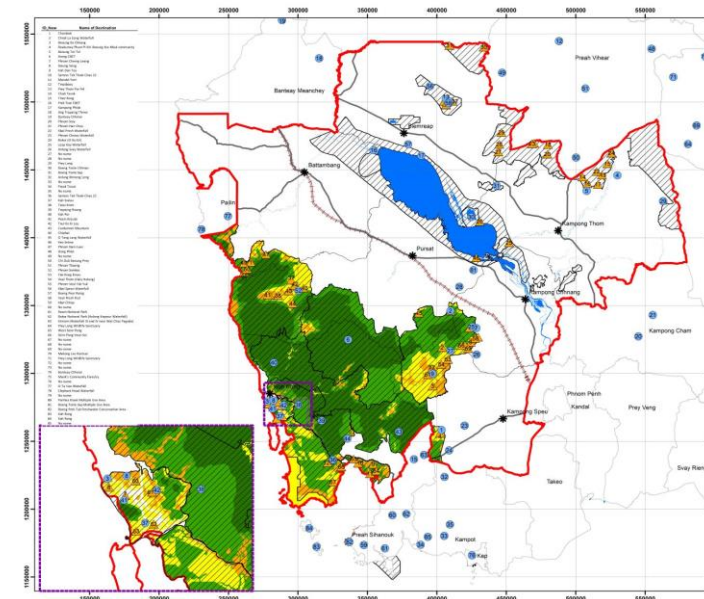
Summary table of suitability score for each sub-criterion used for suitability analysis

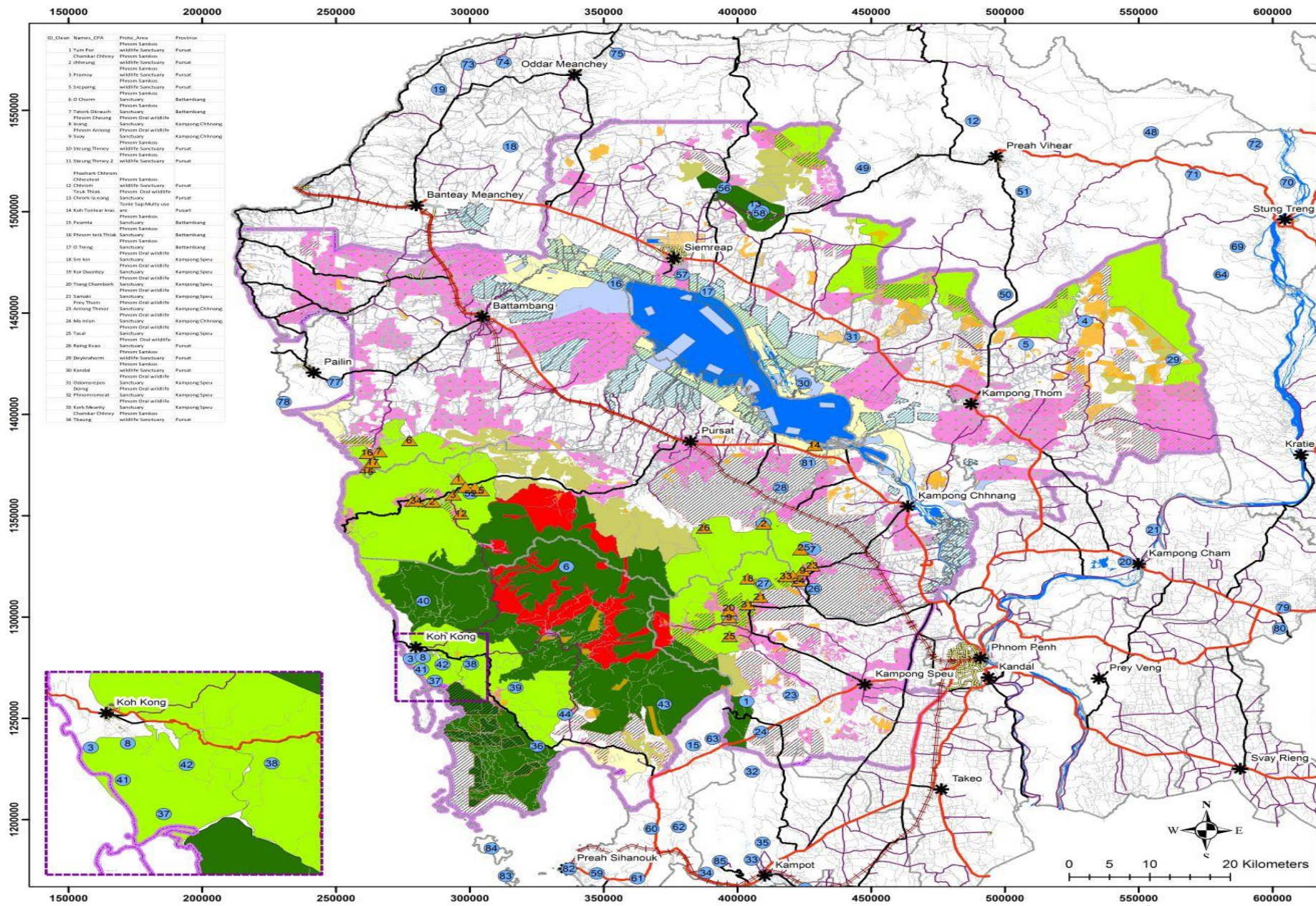
No.	Reselected Criteria	Sub-Criteria	Total Suitability Score (100 points for all of the classes)	Criteria Suitability Rating			
				High	Moderate	Marginal	Not Suitable
1	Accessibility	Distance from roads	5	9.5	7.0	4.0	2.0
		Distance from airport	5				
		Distance from major townships / communes / districts / provinces	5				
2	Attractiveness	State of conservation (type of protected area)	14	9.5	7.0	4.0	2.0
3	Land use / tenure	Land cover 2016	10	9.5	7.0	4.0	2.0
4	Sensitivity of location	No mining concessions	4	9.5	7.0	4.0	2.0
		No ELCs	4				
5	Access to services	Water availability (distance from water sources)	4	9.5	7.0	4.0	2.0
		Electricity (distance from electricity grid)	1	9.5	7.0	4.0	2.0
		Health Services (distance from health care centers)	4	9.5	7.0	4.0	2.0
6	Existing ecotourism / CBT / CBET sites	Existing ecotourism site 2018 V.2	10	9.5	7.0	4.0	2.0
7	Socio-economic	population (commune level)	9	9.5	7.0	4.0	2.0
8	Market demand	Total existing visitors 2017 by province	10	9.5	7.0	4.0	2.0
9	Biodiversity	Biodiversity hotspot (distance from PAs)	15	9.5	7.0	4.0	2.0
Sum of Weighted Scores			100				

Results

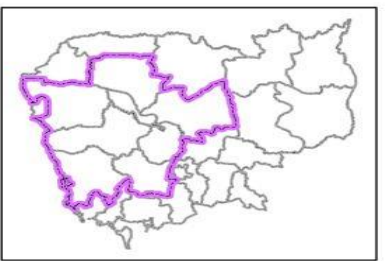


Results (cont.)





ID	Name	CPA	Province
1	Tam Por	Wildlife Sanctuary	Pursat
2	Chankar Chhrey	Wildlife Sanctuary	Pursat
3	Pransay	Wildlife Sanctuary	Pursat
4	Singapong	Wildlife Sanctuary	Pursat
5	O Chom	Sanctuary	Battambang
6	Tuok Chkouch	Sanctuary	Battambang
7	Phnom Cheung	Wildlife Sanctuary	Kampong Chhnang
8	Boeng	Wildlife Sanctuary	Kampong Chhnang
9	Phnom Aring	Wildlife Sanctuary	Kampong Chhnang
10	Prey	Wildlife Sanctuary	Pursat
11	Strung Thmey 2	Wildlife Sanctuary	Pursat
12	Phnom Chhnang	Wildlife Sanctuary	Pursat
13	Chhrov	Wildlife Sanctuary	Pursat
14	Teak Thak	Wildlife Sanctuary	Pursat
15	Chokleong	Wildlife Sanctuary	Pursat
16	Koh Tonle Sap	Wildlife Sanctuary	Pursat
17	Preaek Chhnang	Wildlife Sanctuary	Pursat
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69	Preaek Chhnang	Wildlife Sanctuary	Pursat
70	Preaek Chhnang	Wildlife Sanctuary	Pursat
71	Preaek Chhnang	Wildlife Sanctuary	Pursat
72	Preaek Chhnang	Wildlife Sanctuary	Pursat
73	Preaek Chhnang	Wildlife Sanctuary	Pursat
74	Preaek Chhnang	Wildlife Sanctuary	Pursat
75	Preaek Chhnang	Wildlife Sanctuary	Pursat
76	Preaek Chhnang	Wildlife Sanctuary	Pursat
77	Preaek Chhnang	Wildlife Sanctuary	Pursat
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81	Preaek Chhnang	Wildlife Sanctuary	Pursat
82	Preaek Chhnang	Wildlife Sanctuary	Pursat
83	Preaek Chhnang	Wildlife Sanctuary	Pursat
84	Preaek Chhnang	Wildlife Sanctuary	Pursat
85	Preaek Chhnang	Wildlife Sanctuary	Pursat
86	Preaek Chhnang	Wildlife Sanctuary	Pursat
87	Preaek Chhnang	Wildlife Sanctuary	Pursat
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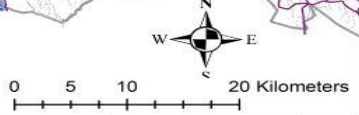


Legend

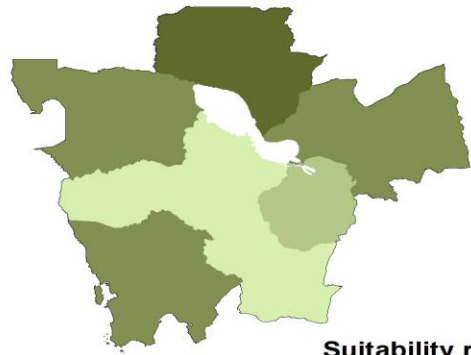
- 20190227List_CPAs
- Existing Potential Ecotourism Sites 2018
- Provincial
- Railway
- Road Network
 - National Road
 - Secondary National Road
 - Provincial Road
 - City Road
 - Rural Road
 - Rural Road (MRD, 2018)
- Province boundary
- Target Boundary
- Land Title
 - Community Fishery
 - Community Forestry
 - Fish Conservation Area
 - Economic Land Concession
 - CI Biodiversity Hotspot
- Protected Area 2018
 - Natural Heritage Park
 - Multiple Use Area
 - National Park
 - Protected Landscape
 - Ramsar
 - Wildlife Sanctuary
 - Biodiversity Corridor

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 Projection: Transverse Mercator
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 False Northing: 0.0000
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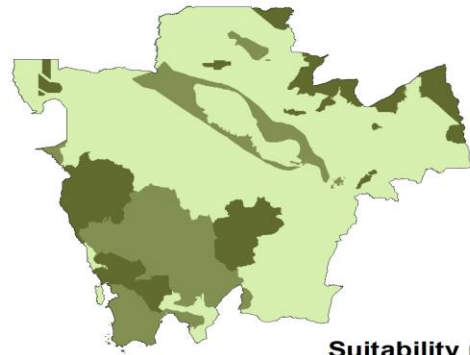


Maps of prepared suitability rating of the criteria uses for weighted overlay analysis



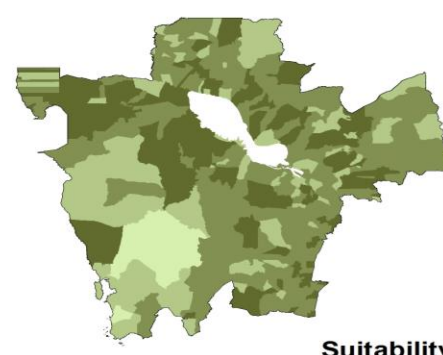
Suitability rating
High
Low

(a) Total existing visitors 2017 by province



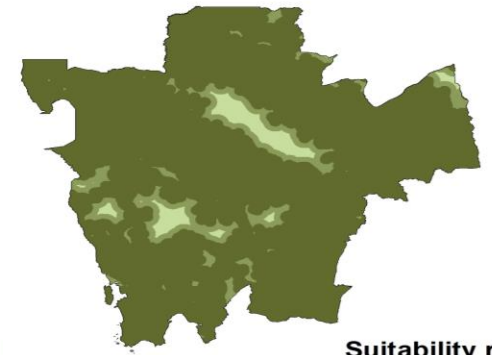
Suitability rating
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Low

(b) Protected Areas



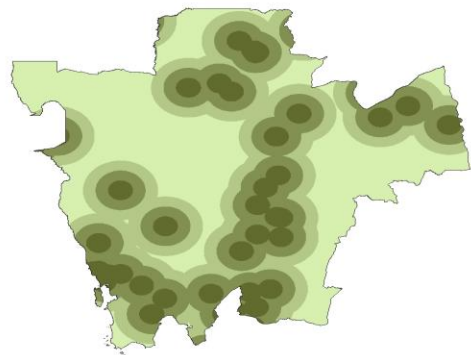
Suitability rating
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Low

(c) Total population in commune



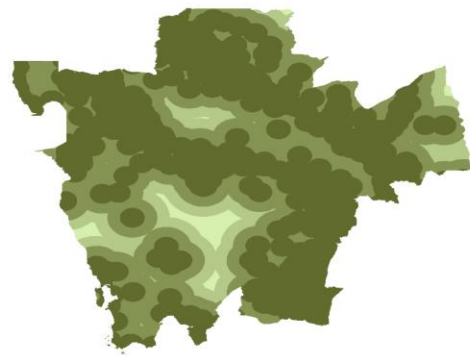
Suitability rating
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Low

(d) Roads and railways



Suitability rating
High
Low

(e) Existing ecotourism sites



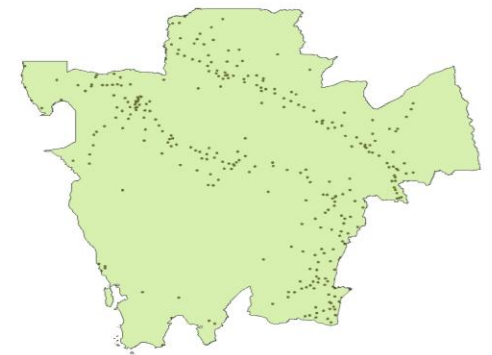
Suitability rating
High
Low

(f) Village, commune, district, province centers



Suitability rating
High
Low

(g) Major rivers

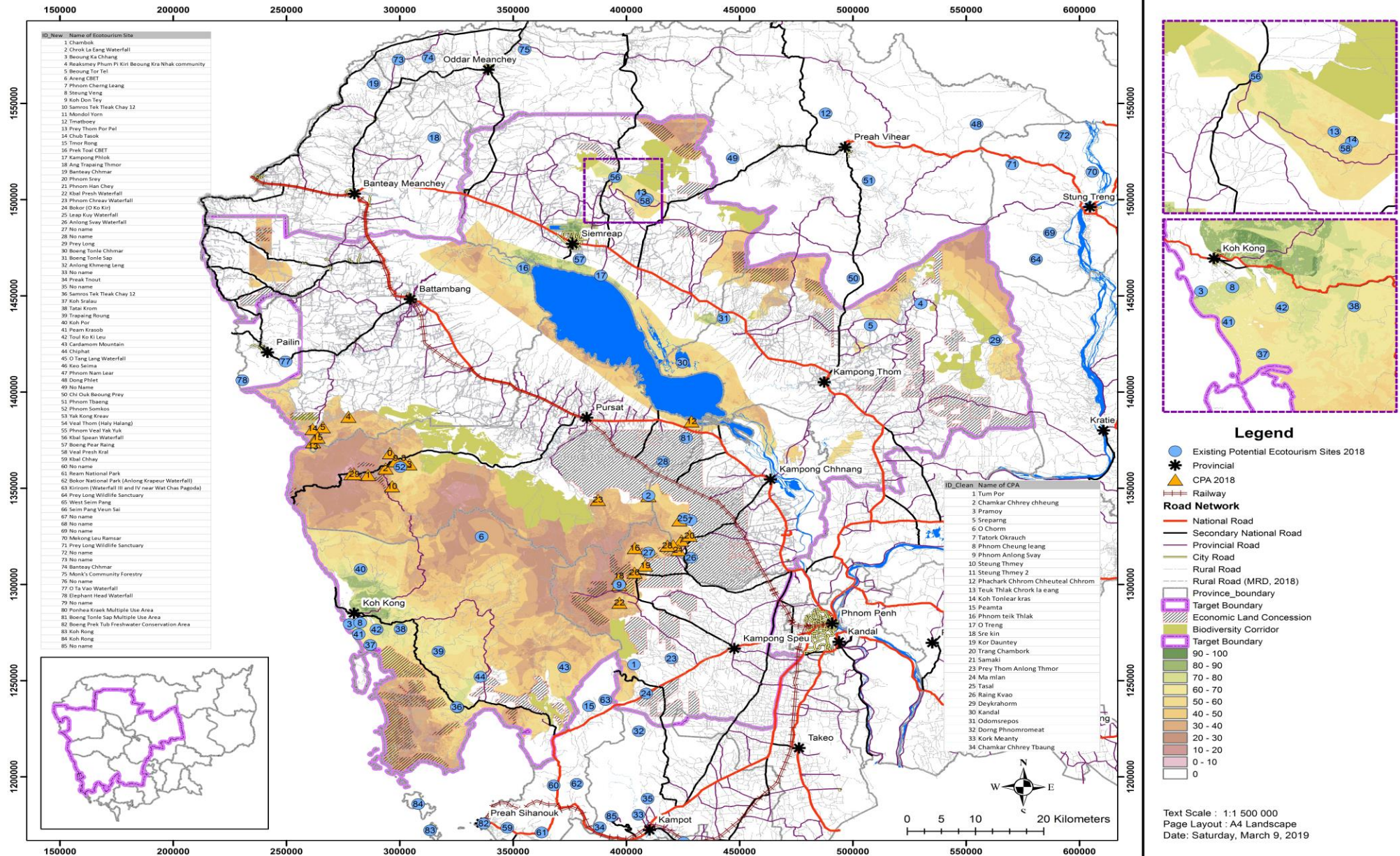


Suitability rating
High
Low

(h) Health centers

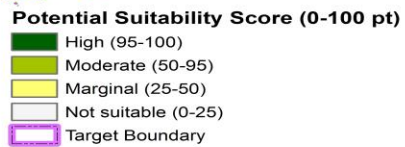
Results of the Simulation

Suitability map of potential sites for ecotourism development in the target provinces

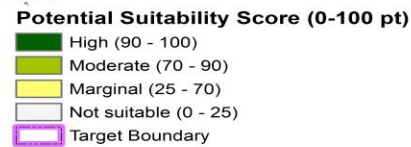
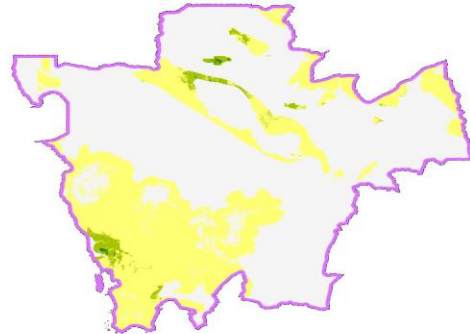


Suitability map for ecotourism in the seven provinces of Cambodia with different scenarios of defining suitability scores for high, moderate, marginal and not suitable classes

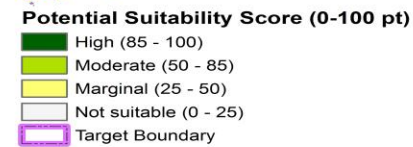
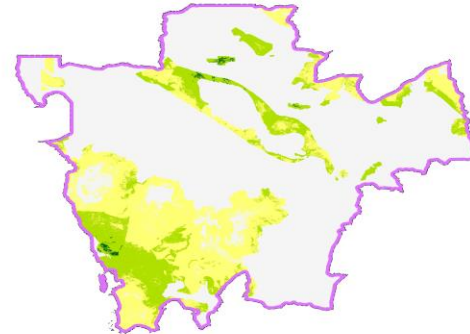
Scenario 1



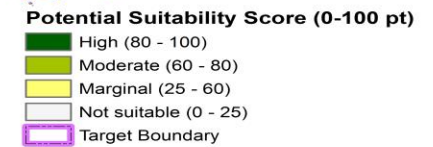
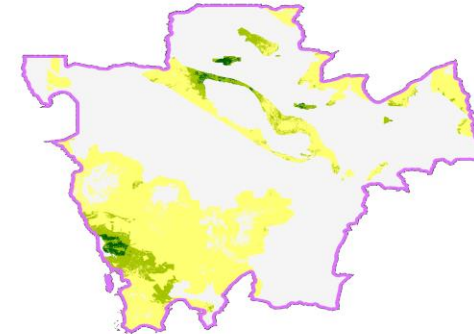
Scenario 2



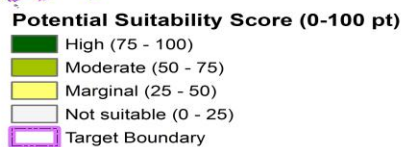
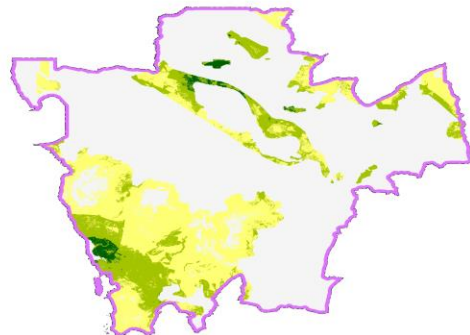
Scenario 3



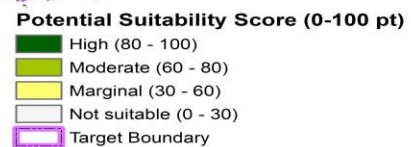
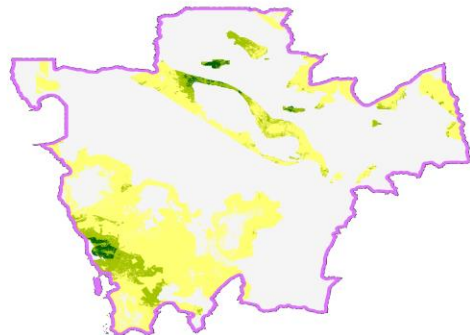
Scenario 4



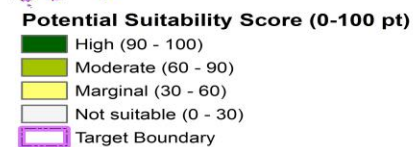
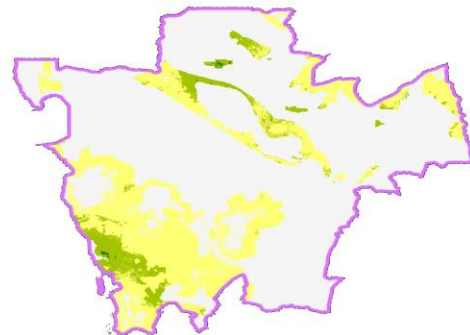
Scenario 5



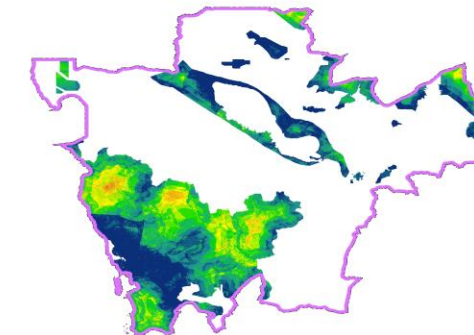
Scenario 6



Scenario 7



Simulated Result



List of Ecotourism Sites with Their Computed Suitability Score (the Higher, the More Potential)

N.	ID_New	Name of Ecotourism Sites	Name of PA	Suitability score	Notes1	Notes2
1	57	Boeung Pear Raing	N/A	79.7	Outside PA 1.5 km	
2	3	Boeung Kachhang	Peam Krasoab Wildlife Sanctuary	79.1	Inside PA	Close to PA boundary 255 m
3	16	Prek Toal CBET	Tonle Sap Core Area	74.2		
4	8	Steung Veng	Peam Krasob Wildlife Sanctuary	72.9		
5	38	Tatai Krom	South Cardamom Mountains and Middle Cardamom Mountains	70.5		
6	41	Peam Krasob	Peam Krasoab Wildlife Sanctuary	68.8		
7	10	Samros Tek Tieak Chay 12	Botumsakor National Park	67.2		
8	36	Samros Tek Tieak Chay 12	Botumsakor National Park	67.2		
9	31	Boeng Tonle Sap	Tonle Sap Biosphere Reserve	66.3		
10	4	Reaksmey Phum Pi Kiri Beoung Kra Nhak community	Prey Lang Wildlife Sanctuary	65.6	Outside PA 4.8 km	
11	40	Koh Por	Nature and Wildlife Reserve	65.4		
12	37	Koh Sralau	Peam Krasob Wildlife Sanctuary	65.0		
13	42	Toul Ko Ki Leu	Peam Krasob Wildlife Sanctuary	62.8		
14	39	Trapaing Rong	Beneath Cardamom and Elephant Mountains in Koh Kong	62.2		
15	17	Kampong Phlok	Tonle Sap Biosphere Reserve	61.8		
16	56	Kbal Spean Waterfall	Kulen National Park	61.8		
17	5	Beoung Tor Tel	Beoung Pe Wildlife Sanctuary	61.8	Outside PA 3.5km	
18	58	Veal Presh Kral	N/A	60.5		
19	63	Kirirom (Waterfall III and IV near Wat Chas Pagoda)	Kirirom National Park	58.9	Inside PA	Outside study area 2.9
20	77	O Ta Vao Waterfall	N/A	58.4	Inside PA	Outside study area 8.1 km
21	13	Prey Thom Por Pel	Phnom Kulen National Park	58.2		
22	44	Chiphat	South Cardamom Mountains and Middle Cadamom Mountain	56.8	Outside PA 1.2 km	Inside ELC
23	32	Anlong Khmeng Leng	N/A	53.8	Inside PA	Outside study area 7.2 km
24	78	Elephant Head Waterfall	N/A	53.4	Inside PA	Outside study area 4.9 km
25	14	Chub Tasok	Phnom Kulen National Park	50.3		
26	71	Prey Long Wildlife Sanctuary	Prey Lang Wildlife Sanctuary	48.4	Inside PA	Outside study area 33.73
27	52	Phnom Somkos	Somkos Wildlife Sanctuary	47.9		
28	43	Cardamom Mountain	N/A	47.0		
29	26	Anlong Svay Waterfall	Aural Wildlife Sanctuary	47.0	outside PA 5.5 km	
30	81	Boeng Tonle Sap Multiple Use Area	N/A	45.5	Outside PA 4.5 km	Inside ELC
31	7	Phnom Cherng Leang	Aural Wildlife Sanctuary	42.3	Outside PA 1km	inside ELC
32	25	Leap Kuy Waterfall	N/A	42.3	inside PA	Near ELC 135m
33	2	Chrok La Eang Waterfall	Aural Wildlife Sanctuary	40.4		
34	1	Chambok	Preah Suramarit-Kossamak Kirirom National Park	38.3	Inside PA	
35	15	Tmor Rong	N/A	38.3	Inside PA 1.6 km from the PA border	outside study area
36	23	Phnom Chreav Waterfall	Aural Wildlife Sanctuary	38.3	Outside PA 16km	Inside ELC
37	12	Tmatboey	Kulen Prom Tep Wildlife Sanctuary	38.0	Inside PA	Outside study area 50 km
38	30	Boeng Tonle Chhmar Core Area / Ramsar	Tonle Sap Biosphere Reserve	37.4		
39	86	Stung Sen Core Area / Ramsar	Tonle Sap Biosphere Reserve	37.2		
40	9	Koh Don Tey	Aural Wildlife Sanctuary	34.1		
41	6	Areng CBET	South Cardamom Mountains and Middle Cardamom Mountains	25.7		

Descriptive statistics of suitability score

N.	Commune Name	District Name	Province Name	COM_CODE *	DIS_CODE	PRO_CODE	AREA	MIN	MAX	RANGE	MEAN	STD	SUM
1078	Chong Khneas	Siem Reap	Siemreap	171007	1710	17	28556100	0	92.15144	92.15144	68.62472	20.82595	2177393.81
1076	Nokor Thum	Siem Reap	Siemreap	171005	1710	17	54836100	0	92.15144	92.15144	67.79074	32.68983	4130421.86
686	Tuol Kokir	Mondol Seima	Koh Kong	90503	905	9	71073900	0	89.84303	89.84303	66.31539	12.0782	5236992.56
679	Ta Tai Kraom	Kaoh Kong	Koh Kong	90303	903	9	201516300	0	84.30286	84.30286	65.3821	6.275867	14639509
685	Peam Krasaob	Mondol Seima	Koh Kong	90502	905	9	46171800	0	88.64265	88.64265	62.9575	17.11946	3229845.39
1074	Kok Chak	Siem Reap	Siemreap	171003	1710	17	38111400	0	100	100	62.56381	37.72346	2649327.11
681	Smach Mean Chey	Khemara Phoumin	Koh Kong	90401	904	9	57294000	0	97.6916	97.6916	61.65055	35.81581	3924673.68
678	Kaoh Kapi	Kaoh Kong	Koh Kong	90302	903	9	61309800	0	78.39335	78.39335	60.58286	14.83708	4127025.28
680	Trapeang Rung	Kaoh Kong	Koh Kong	90304	903	9	906822900	0	78.94737	78.94737	59.00443	6.354863	59451738.7
684	Pak Khlang	Mondol Seima	Koh Kong	90501	905	9	1365601500	0	98.70729	98.70729	57.61842	21.65586	87426444.3
107	Kaoh Chiveang	Aek Phnum	Battambang	20507	205	2	446190300	0	91.22807	91.22807	57.28091	13.72797	28397986.1
1103	Khnang Phnum	Svay Leu	Siemreap	171303	1713	17	201821400	0	76.08495	76.08495	56.28867	11.69092	12622508.5
670	Andoung Tuek	Botum Sakor	Koh Kong	90101	901	9	407924100	0	79.68606	79.68606	54.75964	18.16418	24819749.7
692	Srae Ambel	Srae Ambel	Koh Kong	90606	906	9	56415600	0	72.29917	72.29917	53.26623	9.246509	3338940.13
683	Stueng Veaeng	Khemara Phoumin	Koh Kong	90403	904	9	41094000	0	87.16528	87.16528	51.12485	32.27532	2334360.64
696	Ruessei Chrum	Thma Bang	Koh Kong	90704	907	9	579934800	0	84.30286	84.30286	50.33664	9.927206	32435520.6
506	Peam Bang	Stoung	Kampong Thom	60807	608	6	243610200	0	72.29917	72.29917	49.59265	10.84835	13423638.4
695	Chumnoab	Thma Bang	Koh Kong	90703	907	9	65566800	0	57.98707	57.98707	48.28432	5.064187	3517609.29
698	Thma Doun Pov	Thma Bang	Koh Kong	90706	907	9	506939400	0	69.15974	69.15974	47.32528	6.97246	26656718.5
1084	Tuek Vil	Siem Reap	Siemreap	171013	1710	17	45225900	0	96.30656	96.30656	46.41967	41.55711	2332634.94
455	Phat Sanday	Kampong Svay	Kampong Thom	60206	602	6	225492300	0	71.00646	71.00646	42.21264	17.45318	10576249.6
1081	Srangae	Siem Reap	Siemreap	171010	1710	17	37391400	0	88.91967	88.91967	39.91111	36.93198	1658147.15
1057	Pou Treay	Puok	Siemreap	170709	1707	17	74901600	0	74.14589	74.14589	39.85665	23.01035	3317029.66
132	Ta Taok	Samlout	Battambang	20901	209	2	179006400	0	54.38597	54.38597	39.51221	10.12369	7858820.3
673	Thma Sa	Botum Sakor	Koh Kong	90104	901	9	242477100	0	58.54109	58.54109	39.05757	10.65247	10522850.9
688	Chi Kha Kraom	Srae Ambel	Koh Kong	90602	906	9	71550000	0	54.38597	54.38597	38.62526	6.18153	3070708.26
1088	Kampong Khleang	Soutr Nikom	Siemreap	171104	1711	17	210138300	0	78.7627	78.7627	38.04795	26.13749	8883700.82
472	Sakream	Prasat Ballangk	Kampong Thom	60404	604	6	345037500	0	58.91044	58.91044	37.98019	13.04904	14560653.9
1028	Anlong Samnar	Chi Kraeng	Siemreap	170401	1704	17	276634800	0	78.7627	78.7627	37.93786	29.08956	11661035
485	Mean Chey	Sandan	Kampong Thom	60605	606	6	146447100	0	76.45429	76.45429	37.8885	22.43558	6165178.2
486	Ngan	Sandan	Kampong Thom	60606	606	6	136296900	0	74.60757	74.60757	37.51985	22.45583	5682043.98
1053	Kaev Poar	Puok	Siemreap	170704	1707	17	102923100	0	91.22807	91.22807	37.40925	40.09151	4278084.73
693	Ta Tey Leu	Thma Bang	Koh Kong	90701	907	9	1780687800	0	63.98892	63.98892	37.05572	8.417355	73316291.9
106	Prey Chas	Aek Phnum	Battambang	20506	205	2	324299700	0	73.68421	73.68421	36.14079	14.76389	13022720.6
691	Dang Peaeng	Srae Ambel	Koh Kong	90605	906	9	1282868100	0	70.45245	70.45245	34.80485	18.83223	49611152.6
694	Pralay	Thma Bang	Koh Kong	90702	907	9	764273700	0	56.60203	56.60203	34.50269	9.35668	29299438.8
1023	Khun Ream	Banteay Srei	Siemreap	170302	1703	17	212087700	0	76.45429	76.45429	34.25943	33.85575	8073337.65
677	Chrouy Pras	Kaoh Kong	Koh Kong	90301	903	9	430668900	0	77.46999	77.46999	34.12068	20.99801	16327460.8
676	Preaek Khsach	Kiri Sakor	Koh Kong	90203	902	9	289773000	0	60.29548	60.29548	33.93831	6.594893	10927117.4
674	Kaoh Sdach	Kiri Sakor	Koh Kong	90201	902	9	174043800	0	47.46075	47.46075	33.31461	9.491487	6442446.5
675	Phnhi Meas	Kiri Sakor	Koh Kong	90202	902	9	216456300	0	45.5217	45.5217	32.05135	5.40518	7708573.69
672	Ta Noun	Botum Sakor	Koh Kong	90103	901	9	267804900	0	51.06186	51.06186	31.20525	7.529287	9285465.93
382	Ta Sal	Aoral	Kampong Speu	50405	504	5	1297206900	0	65.00462	65.00462	30.66048	8.851755	44192208
487	Sandan	Sandan	Kampong Thom	60607	606	6	256403700	0	79.40905	79.40905	30.33019	27.48354	8640857.88
1079	Sngkat Sambuor	Siem Reap	Siemreap	171008	1710	17	26970300	0	90.76639	90.76639	30.04462	35.70834	900346.985
689	Chi Kha Leu	Srae Ambel	Koh Kong	90603	906	9	595638000	0	62.04986	62.04986	29.65785	20.08649	19628158.9

Thank You!



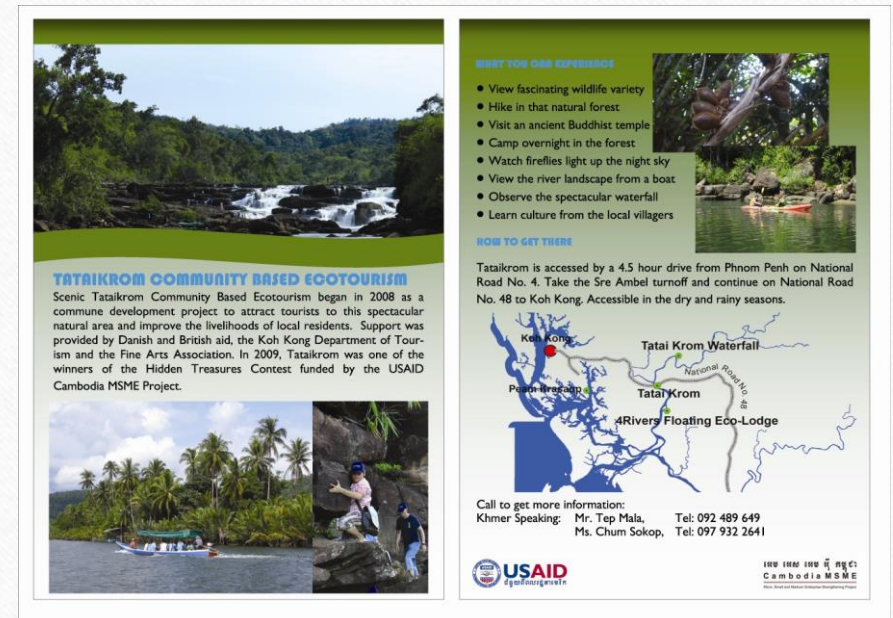
Ecotourism Development and Management Models in Cambodian Protected Areas

**Sustainable Landscape and Ecotourism Project
in the Cardamom Mountains and Tonle Sap Landscape**

**Neth Baromey
WB Ecotourism Consultant**

Cambodian Ecotourism Landscape: Emergence of Ecotourism Development

- The emergence of ecotourism in Cambodia was as early as in other developing countries around the world – mid 1990s – specially via CBNRM programs
- The earliest ecotourism projects in Cambodia: 1) Yak Loam CBET, Ratanakiri founded in 1996; 2) Chambok CBET in Kampong Speu founded in 2000 (Rith, et al, 2009).
- In 2007, there were around 36 CBET and ecotourism projects in Cambodia (Men, 2007)
- Currently, there are up to 146 ecotourism and CBET project implementing in the country (MoE, 2019)



TATAKROM COMMUNITY BASED ECOTOURISM

Scenic Tatakrom Community Based Ecotourism began in 2008 as a commune development project to attract tourists to this spectacular natural area and improve the livelihoods of local residents. Support was provided by Danish and British aid, the Koh Kong Department of Tourism and the Fine Arts Association. In 2009, Tatakrom was one of the winners of the Hidden Treasures Contest funded by the USAID Cambodia MSME Project.

MEET YOUR OWN EXPERIENCES

- View fascinating wildlife variety
- Hike in that natural forest
- Visit an ancient Buddhist temple
- Camp overnight in the forest
- Watch fireflies light up the night sky
- View the river landscape from a boat
- Observe the spectacular waterfall
- Learn culture from the local villagers

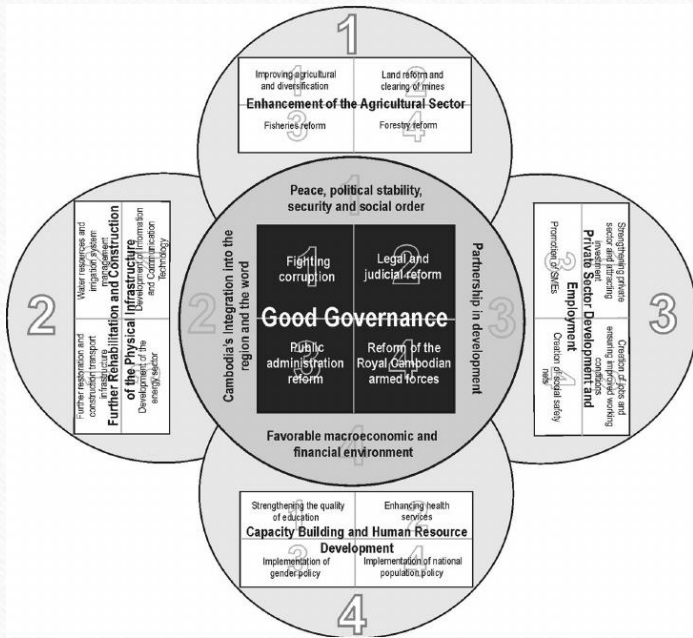
HOW TO GET THERE

Tatakrom is accessed by a 4.5 hour drive from Phnom Penh on National Road No. 4. Take the Sre Ambel turnoff and continue on National Road No. 48 to Koh Kong. Accessible in the dry and rainy seasons.

Call to get more information:
Khmer Speaking: Mr. Tep Mala, Tel: 092 489 649
Ms. Chum Sokop, Tel: 097 932 2641

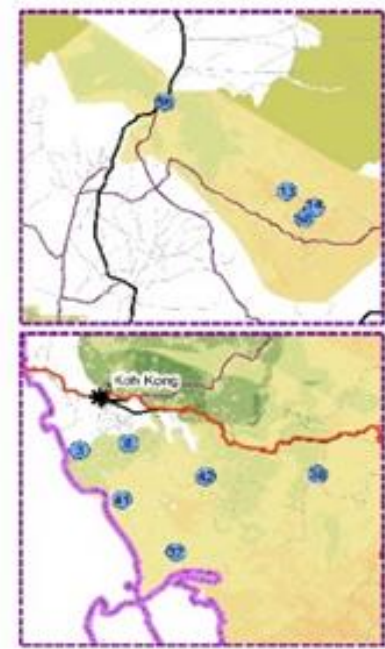
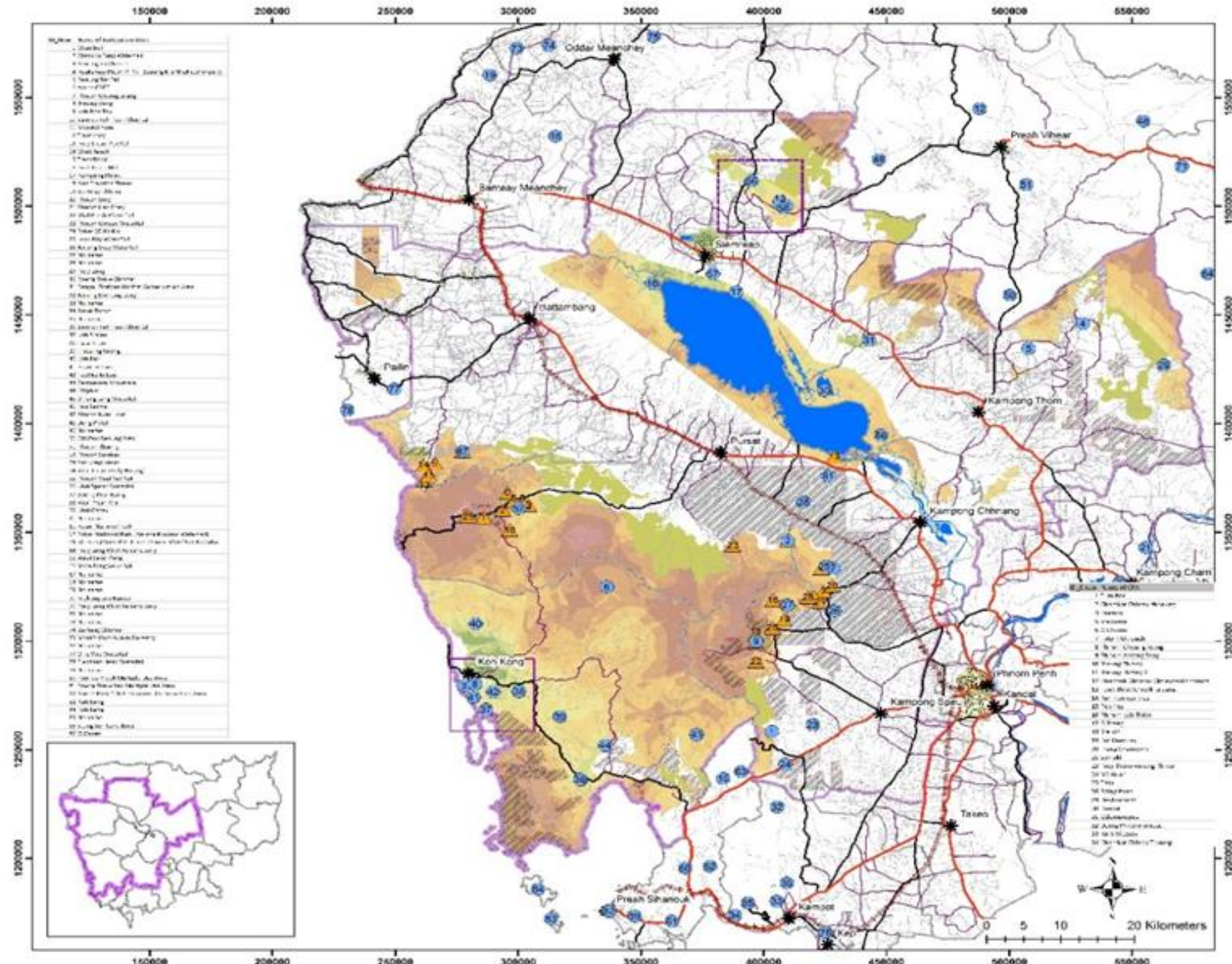
USAID
Cambodia MSME

Cambodian Ecotourism Landscape: Emergence of Ecotourism Development



Motivations behind the country's move to develop ecotourism/CBET include:

- Its commitment to Biological Diversity Convention (BDC, 1992), thus reenactment of PA system and environmental management frameworks
- Its commitment to implement SD policies, especially democratization and resource decentralization (after the election in 1993)
- Its needs to develop national economy and install self-financing mechanism for conservation, while alleviating poverty among nearly 80% of grassroots communities, particularly those residing in or adjacent to PAs



Legend

- Existing Potential Ecotourism Sites 2019
- CRA 2018
- Provincial
- Railway

Road Network

- National Road
- Secondary National Road
- Provincial Road
- City Road
- Rural Road
- Rural Road (MRD, 20' R)

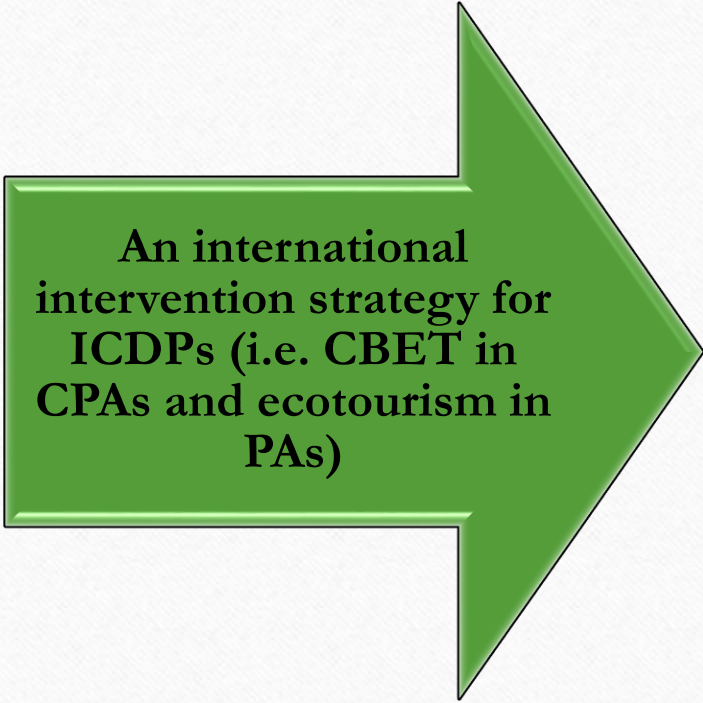
- Province boundary
- Economic Land Concession
- Biodiversity Corridor
- Target Boundary

90 - 100
 80 - 90
 70 - 80
 60 - 70
 50 - 60
 40 - 50
 30 - 40
 20 - 30
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Text Scale: 1:1 500 000
 Page Layout: A4 Landscape
 Date: Sunday, March 10, 2019

Ecotourism Actors and Models

Two major DRIVERS and strategies for ecotourism and CBET development, which draw on its own development models and participating actor



An international
intervention strategy for
ICDPs (i.e. CBET in
CPAs and ecotourism in
PAs)



An economic
development strategy
(i.e. enterprise based
small & large scale
ecotourism concession)

DRIVER 1: An international intervention strategy for ICDPs – Conservation NGO Model

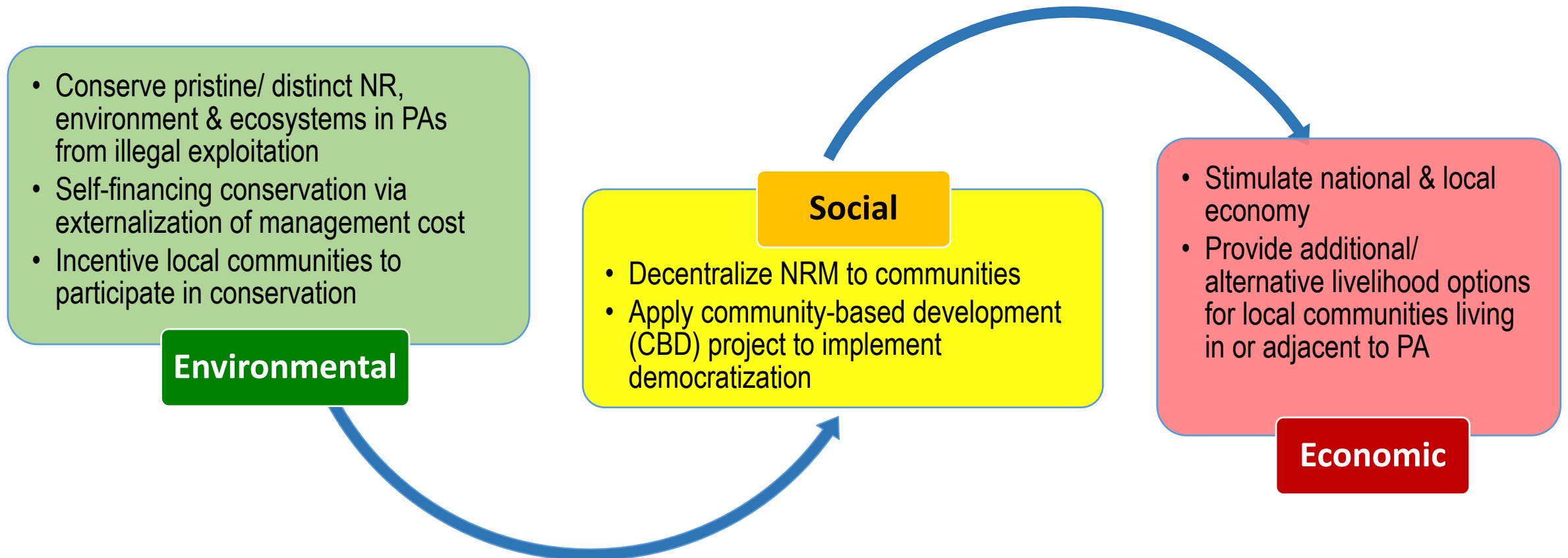


DRIVER 1: An international intervention strategy for ICDPs – Government Agency / Industry Association Model



Cambodian Ecotourism & CBET Goals and Purposes

Ecotourism & CBET were developed mostly via CBNRM employing Integrated Conservation and Development programs (ICDPs)



DRIVER 2: Economic Development Strategy via Ecotourism Concession

Ecotourism enterprise initiated and self-funded by private sector has no precise development model but come in the form of ecotourism concession through three channels

Large scale ecotourism development project (50-99 years): register with MoC and CDC but need to undergo MoE and inter-ministerial approval through environmental social impact assessment (ESIA) process

Small scale ecotourism development project (50 years): access to only land area in PA that is below 10 hectares and register through MoE

Small scale ecotourism and CBET development project: time period was unclear, register with Mol within framework of Decentralization and Deconcentration (D&D) as cooperative or association when ecotourism initiative is integrated in commune development plan (CDP) or commune investment plan (CIP)

List of large scale ecotourism projects in PAs

No.	Company	Land Area (ha)	Duration	Location
1	Union Development Group Co., Ltd.	36000	99	“Botum Sakor NP” Koh Kong
2	SOKIMEX Investment Group (Sokha Hotel)	18987	99	“Bokor NP” Kampot-Preah Sihanouk
3	A2A Town (Cambodia) Co., Ltd.	2000	70	“Kirirom NP” Kampong Speu
4	A2A Town (Cambodia) Co., Ltd.	7668	70	“Kirirom NP” Kampong Speu-Preah Sihanouk
5	Yee Jia Tourism Development Company., Ltd.	3300	70	Preah Sihanouk NP (Ream), Preah Sihanouk
6	Royal Group Co., Ltd.	1408	90	Preah Sihanouk NP (Ream), Preah Sihanouk
7	Evergreen Success and Asia Resort Development Co., Ltd.	1480	99	Preah Sihanouk NP (Ream), Preah Sihanouk
8	SINOMEXIM Investment Co., Ltd.	4280	80	Botum Sakor NP, Koh Kong province
9	Sok Kong Import Export Co., Ltd.	2200	90	Preah Soram Rith-Kosomak “Kirirom” NP, Kampong Speu and Preah Sihanouk
10	JW (Cambodia) Eco Holiday PET. LTD	5000	50	Botum Sakor NP, Koh Kong province
11	Kirirom Ecotourism Investment	2000	70	Preah Soram Rith-Kosomak “Kirirom” NP, Kampong Speu
12	CAM-AG Import Export Co., Ltd.	4350	50	Kulen Promtep Wildlife Sanctuary, Oddormeanchey
13	MDS Thmor Da EZ Co., Ltd.	2265	70	Somkos Wildlife Sanctuary, Pursat province
14	Celestial Star Limited Company	406	50	Koh Thmei “Ream” NP Preah Sihanouk
15	HTTH Island Investment Co., Ltd.	1668	50	Koh Thmei “Ream” Np Preah Sihanouk

List of small scale ecotourism projects in PAs

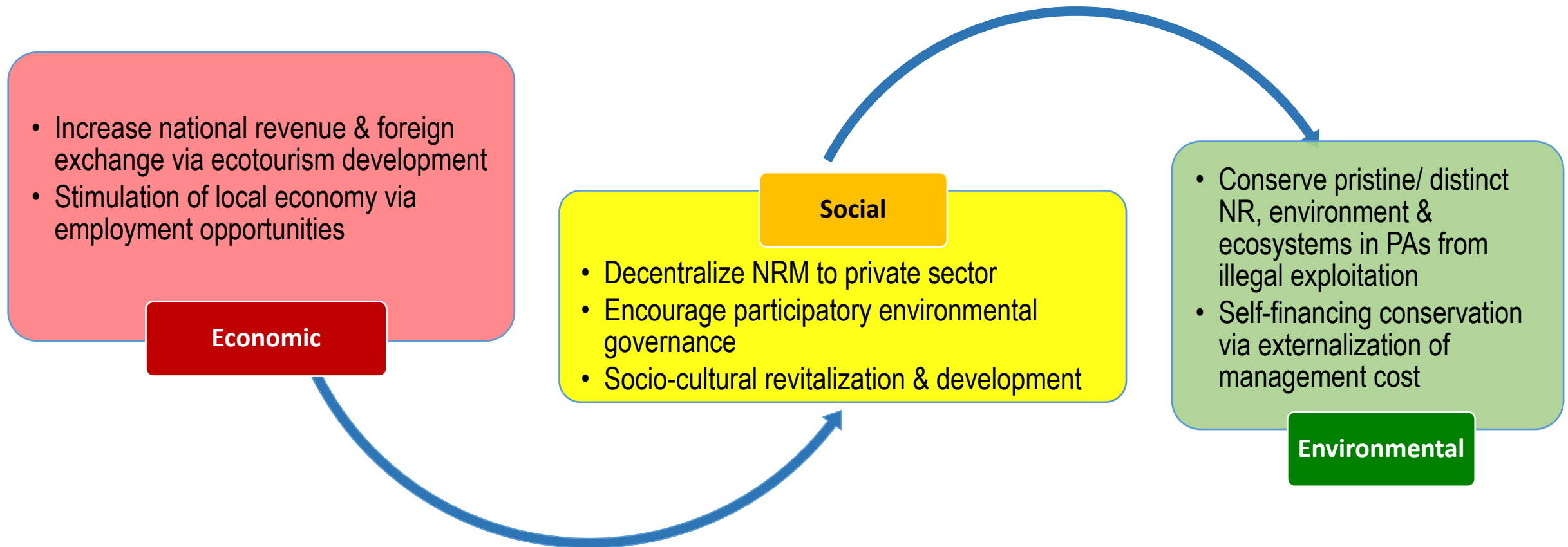
No.	Company	Land Area (ha)	Duration (Year)	Location
1	SBPH Engineering and Construction	2.30	50	Ream NP, Sihanouk province
2	Emeril Sen Resort Co., Ltd.	9.60	50	Ream NP, Koh Thmei island, Preah Sihanouk province
3	Hill & Beach Resort Co., Ltd.	9.60	50	Ream NP, Koh Thmei island, Preah Sihanouk province
4	Natural New Island Resort Co., Ltd.	9.80	50	Ream NP, Koh Thmei island, Preah Sihanouk province
5	Sea Bridge Investment Co., Ltd.	9.60	50	Ream NP, Koh Thmei island, Preah Sihanouk province
6	Sea Bridge Investment Co., Ltd.	0.66	50	Ream NP, Koh Thmei island, Preah Sihanouk province
7	Joy Island Entertainment Co., Ltd.	8.36	50	Ream NP, Koh Thmei island, Preah Sihanouk province
8	Natural New Island Resort Co., Ltd.	9.38	50	Ream NP, Koh Thmei island, Preah Sihanouk province
9	Sea Bridge Investment Co., Ltd.	9.78	50	Ream NP, Koh Thmei island, Preah Sihanouk province
10	Hill and Beach Resort Co., Ltd.	9.66	50	Ream NP, Koh Thmei island, Preah Sihanouk province
11	LCGFX Investment Co., Ltd.	8.38	50	Ream NP, Koh Thmei island, Preah Sihanouk province
12	Emeril Sen Resort Co., Ltd.	9.52	50	Ream NP, Koh Thmei island, Preah Sihanouk province
13	JET's Group Co., Ltd.	9.98	50	Preah Monivong NP (Bokor), Kampot
14	Mrs. Heang Kunthei	9.66	50	(Anlong Khmeng Leng) Kampot
15	Racing Corporation	9.65	50	Keb NP, Keb province
16	Racing Company	9.65	50	Keb NP, Keb province
17	CKK Investment Co., Ltd.	9.73	50	Keb NP, Keb province
18	H.E. Sear Rethy	9.95	50	Keb NP, Keb province
19	JET's Group Co., Ltd.	9.95	50	Te Teuk Pos, Kampong Speu province
20	Our HS Convenience Co., Ltd.	9.83	50	Te Teuk Pos, Kampong Speu province
21	UID Development Co., Ltd.	9.97	50	Te Teuk Pos, Kampong Speu province
22	Mrs. Sut Sothet	9.85	50	Te Teuk Pos, Kampong Speu province
23	Joy Island Entertainment Co., Ltd.	9.94	50	Cardamom Mountains Biodiversity Corridor, Preah Sihanouk province
24	Natural New Island Resort Co., Ltd.	9.86	50	Cardamom Mountains Biodiversity Corridor, Preah Sihanouk province
25	Sea Bridge Investment Co., Ltd.	9.81	50	Cardamom Mountains Biodiversity Corridor, Preah Sihanouk province
26	Hill and Beach Resort Co., Ltd.	9.80	50	Cardamom Mountains Biodiversity Corridor, Preah Sihanouk province
27	LCGFX Investment Co., Ltd.	9.91	50	Cardamom Mountains Biodiversity Corridor, Preah Sihanouk province
28	Emeril Sen Resort Co., Ltd.	9.87	50	Cardamom Mountains Biodiversity Corridor, Preah Sihanouk province
29	Mr. Sarom Radi	5.75	50	Keb NP, Keb province
30	Mr. Pov Ponnarak	1.75	50	Keb NP, Keb province
31	Mrs. Thong Danet	9.80	50	Ream NP, Koh Thmei island, Preah Sihanouk province
32	Mrs. Seng Socheta	9.90	50	Ream NP, Koh Thmei island, Preah Sihanouk province
33	Mr. Ho Sethivon	9.80	50	Ream NP, Koh Thmei island, Preah Sihanouk province
34	Mr. Chhem Phan	9.73	50	Koh Thmei island, Ream NP, Preah Sihanouk
35	Mrs. Heng Malen	6.13	50	Koh Thmei island, Ream NP, Preah Sihanouk
36	Mrs. Chan Sok Cheng	10	50	Southern Cardamom Mountains, Koh Kong province
37	Mr. Ly Sen Serey	10	50	Southern Cardamom Mountains, Koh Kong province
38	Mrs. Teub Chan Theoun	10	50	Ta Ngol Mountain, TaTai Wildlife Sanctuary, Koh Kong province
39	Mrs. Teub Chan Theoun	5.39	50	Koh Moul, Peam Krasob Wildlife Sanctuary, Koh Kong province
40	Mrs. Heng Sokhen	10	50	Koh Moul, Peam Krasob Wildlife Sanctuary, Koh Kong province
41	H.E. Chheoung Sokuntheavy	10	50	Kbal Preah Waterfall, Mondulkiri
42	H.E. Chheoung Thean Keat	10	50	Kbal Preah Waterfall, Mondulkiri
43	Her Excellency Lav Sokhuy	10	50	Kbal Preah Waterfall, Mondulkiri
44	H.E. Chheoung Thean Seng	10	50	Kbal Preah Waterfall, Mondulkiri

List of Small and Large Scale Ecotourism Enterprises Located in Protected Areas in the Target Provinces

No	Company	Land Area (ha)	Duration (Year)	Type	Location
Koh Kong Province					
1	Mrs. Chan Sok Cheng	10	50	Small	Southern Cardamom Mountains, Reusei Chhrum commune, Thmar Bang district, Koh Kong
2	Mr. Ly Sen Serey	10	50	Small	Southern Cardamom Mountains, Reusei Chhrum commune, Thmar Bang district, Koh Kong
3	Mrs. Teub Chan Theoun	10	50	Small	Ta Ngol Mountain, Koh Andet village, Tatai Krom commune, Koh Kong district, Koh Kong province (TaTai Wildlife Sanctuary)
4	Mrs. Teub Chan Theoun	5.39	50	Small	Koh Moul, Mux village, Koh Kapi commune, Koh Kong district, Koh Kong province (Peam Krasob Wildlife Sanctuary)
5	Mrs. Heng Sokhen	10	50	Small	Koh Moul, Mux village, Koh Kapi commune, Koh Kong district, Koh Kong province (Peam Krasob Wildlife Sanctuary)
6	Union Development Group Co., Ltd.	36,000	99	Large	"Botum Sakor National Park", Koh Kong province
7	SINOMEXIM Investment Co., Ltd.	4,280	80	Large	Botum Sakor National Park, Koh Kong province
8	JW (Cambodia) Eco Holiday PET. LTD	5,000	50	Large	Botum Sakor National Park, Koh Kong province
Kampong Speu Province					
9	A2A Town (Cambodia) Co., Ltd.	2,000	70	Large	"Kirirom National Park" Kampong Speu province
10	A2A Town (Cambodia) Co., Ltd.	7,668	70	Large	"Kirirom National Park" Kampong Speu-Preah Sihanouk provinces
11	JET's Group Co., Ltd.	9.95	50	Small	Te Teuk Pos, Aural district, Kampong Speu province
12	Sok Kong Import Export Co., Ltd.	2,200	90	Large	Sustainable Use Area of Preah Soram Rith-Kosomak "Kirirom" National Park, Kampong Speu and Preah Sihanouk provinces
13	Our HS Convenience Co., Ltd.	9.83	50	Small	Te Teuk Pos, Aural district, Kampong Speu province
14	UID Development Co., Ltd.	9.97	50	Small	Te Teuk Pos, Aural district, Kampong Speu province
15	Mrs. Sut Sothet	9.85	50	Small	Te Teuk Pos, Aural district, Kampong Speu province
16	Kirirom Ecotourism Investment	20	50	Small	Preah Soram Rith-Kosomak "Kirirom" National Park, Kampong Speu
Pursat Province					
17	MDS Thmor Da EZ Co., Ltd.	2,265	70	Large	Somkos Wildlife Sanctuary, Thmor Da village, Veal Veng district, Pursat province

Cambodian Ecotourism & CBET Goals and Purposes

Ecotourism concession & CBET projects were developed via enterprise-based small and large scale approach



2. Ecotourist Arrivals and Receipts

- Tourist arrivals increased around 9.5% to 10 % from 2016 to 2017
- International tourists to ecotourism destinations increased around 8% from 2016 to 2017

Cambodia	2016			2017		
	Domestic	Int.	Receipt	Domestic	Int.	Receipt
Tourist Arrivals	10,642,081	5,011,712	\$3,212M	10,864,368	5,602,157	\$3,638M
Ecotourist Arrivals	510,381	66,349	N/A	497,651	71,697	N/A

Tourist Arrivals and Revenue in CBET Sites

No.	Site	Ave. Daily Expense (USD)	Tourist Arrival in 2017	Tourist Arrival in 2018	Income 2017	Income 2018
1	Chiphat CBET	23\$**	3395	2583	158,379\$	163,396\$
2	Chambok CBET	13.3\$*	12650	12707	53,950\$	12,688\$
3	Chrok La Eang Waterfall CBET	10\$**	121788	91193	54,277\$	26,008\$
4	Peam Krasob CBET	14.64\$**	75314	95575	61,072\$	87,965\$
5	Beoung Ka Chhang	15\$*	476	160	2,350\$	473\$
6	Anlong Svay CBET	5\$*	3000*	5000*	15,000\$	25,000\$*
7	Dong Phlet CBET	62.56\$**	164	91	10,261\$	3,600\$
8	Phnom Chreav Waterfall	25\$**	1800	23831	750\$	5,286\$
9	Reaksmey Phum Pi Kiri Beoung Kra Nhak CBET	13\$**	10040	4730	1,250\$	3,875\$
10	Areng CBET	40\$*	884	802	35,360\$	11,958\$
11	Koh Sralau CBET	10\$*	700	250	7,000\$	25,000\$*
12	Samros Tek Tleak Chay 12	40\$*	20*	0	800\$	N/A
13	Preak Thnot CBET	N/A	30288	91666	7,727\$	20345\$
14	Mondol Yorn CBET	32.6\$*	158	48	290\$	176\$
15	Tmatboey CBET	39\$*	279	322	27,000\$	14,190\$
16	Tmor Rong CBET	N/A	15794	19894	3,075\$	7,257\$
17	Prek Toal CBET	110\$*	1,184	1,029	130,240\$**	113,190\$**
18	Kampong Phlok CBET	30\$*	N/A	10,000*	N/A	300,000\$**

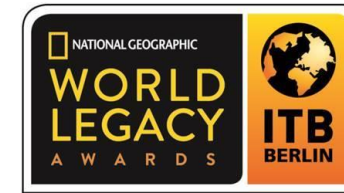
3. Best Practices of Ecotourism Development

- Literature concerning performances of private ecotourism resorts or enterprises is limited yet
- There is a recent assessment conducted by the MoT, “Model Tourism Resort Award,” offering 26 medals to both ecotourism and non-ecotourism resorts in Cambodia based on three broad criteria that have not entirely included ecotourism pillars / principles yet:
 - 1) best resort management,
 - 2) good environmental consideration, and
 - 3) extensive information dissemination, well safety performance, and high tourist satisfaction (MoT, 2018).



3. Best Practices of Ecotourism Development

- Best practices concerning CBET projects is well-known nationally and recognized by some international accreditation organizations
- Best practices concerning small scale CBET include:
 - 1) Engage communities and stakeholders in conservation and endogenous development that contribute to enhance enabling frameworks, resources, capacities, community solidarity, and collective actions for both endeavors;
 - 2) Promote partnership building and increase opportunities for income generation, livelihoods diversification which contribute to self-reliance, self-efficiency, improved welfare and local living standards;
 - 3) Promote environmental awareness, education and conservation among communities, stakeholders and visitors that lead to changes of attitudes, more self-regulated activities and less destructive practice concerning the environment
 - 4) Increase capacity and leadership for development and management of decentralized institutions at either commune level and community-based organization (CBOs)



To Do 2013! Cambodian Award Winner

(Socially Responsible Tourism)

March 5th, 2014, Berlin, Germany

<http://www.todo-contest.org/preistraeger-en/kambodscha14-02.html>



ទទួលបានរង្វាន់សម្តេច
នាយករដ្ឋមន្ត្រី
ស្តីអំពីគុណៈកិច្ចបៃតង
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4. Challenges of Ecotourism Development in Cambodia

• PA system is conducive to large-scale development or spontaneous and impulsive actions (e.g. large-scale infrastructures and facilities) due mainly to shortage of legal frameworks (esp. PA management plan)

• The problems of overuse and confusion between ecotourism and nature-based mass tourism (esp. in large scale ecotourism site) due mainly to limited mechanisms to regulate use (e.g. contracts on design, product offer, energy consumption, etc.)

• Limited human capital and financial resources allocated to manage PA ecotourism appropriately



Masterplan



4. Challenges of Ecotourism Development in Cambodia



- Limited coordination among different influential stakeholders / actors in ecotourism context



- Donor and civil society driven initiatives (esp. CBET projects) lead to adequate support and partial involvement from relevant government agencies / stakeholders



- Sudden increase in demand for diversifying ecotourism experiences and corresponding proliferation of ecotourism and CBET sites with limited quality of services and under qualified products



- Quality of basic infrastructure required by visitors are minimal and often below acceptance to even down-to-earth ecotourists

6. Proposed PA Ecotourism Development and Management Models

- **CBET Enterprise Model:** strengthen the current CBET ventures and nurture their entrepreneurship aspects.
- 3 criteria that identify CBET enterprise include:
 - Local community ownership of the venture
 - Full community involvement in the venture's operation and management
 - The community as the main beneficiary of the initiative

TESTIMONIAL

The best thing about Eco-tour is that it is impromptuous, it is honest and sincere. That is its main and strong charm because the tour is always intimate and personal.
Cindy and Alvin (Singapore)

We had so much fun and learnt so much and enjoyed the Eco-tour company. The tour to the water palm canal paradise was very interesting and we learned a lot about the Viet Nam War and the people now. Khau explained to us how the family is working with the local community to improve the environment and keep it clean.
James in Sydney (Australia)

Thank you so much for a great day. Really fun to pull in the fishing net and learn how to row on the basket boat. Your whole family is so friendly. The ride through the water coconut palm canal paradise were so beautiful and the information you told us about the Viet Nam was so interesting. We had the best time and great spring rolls!!! Thank you so much.
Amanda & Sarah (Melbourne, Australia)

An amazing and fantastic experience... no one should miss! Friendly and kind people, some of the best Vietnamese seafood we have ever had and a sunset we will never forget. Well done and many thanks to Mr. Khau and his family.
Bettina (Zurich, Switzerland)

We took the sunrise tour - very beautiful and fascinating about the fishing. It is run by a lovely family, definitely worth the little extra money it cost. I highly recommend this fabulous eco-tour!
Stacey (San Diego CA USA)

WHO ARE WE ?

Hoi An Eco-tour company is run by family business that has been set up 2005 with our over 10 years experienced tourisms. Our target in organizing Hoi An Eco-tour is to make the local and foreigner people to aware more of protecting and preserving the environment for Hoi An town. In joining Eco-tours with us, you are contributing to make "A cleaner, greener and more beautiful for Hoi An - The world cultural heritage".

TOUR INTRODUCTION

Dear Valued Guests,

Would you like a peaceful relaxing time inside the preserved romantic Water Coconut Palm canal Paradise with the bamboo basket boat?

Would you love catching fish by the unique and special fishing net with the local fishermen?

Do you enjoy observing the beautiful magic sunrise in the early morning with the local fishing life from the sea?

Would you wish to explore the beautiful nature of rice paddy fields in the countryside?

How about the sunset cruise with some of tastful snack and cold beer?

Here are all at Hoi An Eco-tour that is committed to providing you a unique cultural window into The Vietnamese way of life. What's important is that you will be able to take part in it and the hands-on experience.

WELCOME TO HOI AN ECO-TOUR!

Discover nature - meet people - enjoy the adventure

**CÔNG TY TNHH KHOA TRẦN HỘI AN
HOI AN ECO-TOUR COMPANY**

Phước Hải Fishing Village, Cửa Đại District, Hoi An Town, Vietnam
Tel: (84-510) 882288 - Fax: (84-510) 827383
E-mail: info@hoianecotour.com - Website: www.hoianecotour.com
Hotline: 84.914.082.850 (Customer care)

RECOMMEND AND BRINGING ITEMS TO TAKE WITH YOU

- Fantastic seafood meal at "the end of the water" restaurant
- Cold water & beer
- Fruit dessert
- Pick up & drop off
- Passenger insurance
- Tour Guide

6. Proposed PA Ecotourism Development and Management Models

- **Partnership between CBET community and private enterprise (Community-Private Sector Partnership Model)**

- May be promoted at an early stage with facilitation from government agencies, PA authority or NGOs
- Need precise “contractual agreements” and time to develop a shared understanding of expectation and benefit sharing
- Benefits from encouraging the partnership:
 - 1) greater security for CBET managers than short term funds from philanthropic and donor agencies;
 - 2) better position for CBET managers to undertake market research and marketing to ensure there is a market for the offering CBET experience;
 - 3) better access to skills and funds needed for diversifying and unique ecotourism or CBET experiences while complying with PA’s regulations and guidelines or master plan.

1. A private lodge or resort built in CBET land but operated privately and voluntarily share a mutually agreed upon portion of their revenue with the CBET community

A marketing partnership with tour operator: increase synergy for ecotourism and CBET enterprise (e.g. Osmose, CRDTour, Sam Veasna Center, etc.)

A joint venture lodge / resort as a partnership between a private investor and the local community. A private investor builds and operate the lodge / resort, but in a contractual relationship with the CBET community, which makes a recognized contribution to the enterprise in return for a share of the financial and other benefits.

6. Proposed PA Ecotourism Development and Management Models

- **Private ecotourism enterprise model**

- Need concession endorsement from relevant authorities (e.g. MoE)
- Need precise “contractual agreements” with PA management / MoE on designs, products offer, EUF/PES, employment, etc. based on broader master/management plan of each specific PA
- Benefits from encouraging the private enterprise:
 - 1) Private sector participation in defending forest, biodiversity and environment in PA setting;
 - 2) better position for market research and marketing to ensure there is a market for the offering ecotourism experience;
 - 3) Access to skills and funds needed for diversifying and unique ecotourism experiences while complying with PA’s regulations and guidelines or master plan.



6. Proposed PA Ecotourism Development and Management Models

- **Partnership between CBET community and PA Management Model**
 - May be promoted in context where CBET community is residing in or adjacent to a PA (gateway community) but operating ecotourism activities within the PA boundary
 - Need various contractual agreements on commercial licenses or entry fee (gateway community), sharing of benefits on finishing goods and services, permitted activities, designs and products offer, etc.
 - Benefits from encouraging the partnership:
 - 1) Endorse community and stakeholders' participation in conservation and provide incentive for diversifying local livelihoods from destructive forest-based activities;
 - 2) Fund for additional financing of PA management activities and conservation initiatives;
 - 3) better cooperation for ensuring that CBET activities comply with PA's regulations and guidelines or master plan.



7. Mechanisms for Implementing Proposed Models

- Develop the guideline and M&E toolkits for the development and management of CBET sites in PAs or CBET sites (gateway community) using PA resources for their ecotourism operations;
- Encourage and facilitate the registration of CPA and CBET (as a sub-management of CPA or a sole management by itself) to operate CBET services within PAs;
- Formulate a contractual agreement between CPA/CBET community and PA management for CBET operation, resource decision-making and planning, benefit sharing based on equity considerations, and co-management;
- Develop standardization and accreditation or certification mechanisms for CBET operation in and around PAs (using PA resources as core attractions);
- Provide capacity building programs and acceptable hard ecotourism infrastructure to CPA/CBET community;
- Conduct regular trainings and M&E of CBET operation by PA authority;
- Encourage joint marketing and promotion, joint product development and diversification as well as joint trainings with other responsible bodies (i.e. MoT and MAFF); *and*
- Encourage and facilitate active support and involvement from local government, especially village and commune authorities in the areas.

7. Mechanisms for Implementing Proposed Models

- Develop PA ecotourism destination or hub management office / body to improve the cooperation and coordination among all key stakeholders and with travel and tourism companies;
- Develop management frameworks in the forms of guideline, M&E mechanisms and associated supports (i.e. task force, supporting infrastructure, financing strategy, M&E toolkits, etc.) for the development, management and operation of ecotourism enterprises / services in PAs;
- Ensure regular communication and consultation with concerned private ecotourism enterprises on and enforcement of relevant legal, policy, and regulatory frameworks and advices of the MoE and PA management (and other responsible bodies, i.e. MoT and MAFF) by ecotourism concessionaires operating in PAs and by external travel and tourism companies;
- Facilitate regular information exchange between private enterprises, PA authority of MoE and other key stakeholders (including local communities and authorities and other responsible ministries / authorities) in order to help the private ecotourism industry develop more sustainable ecotourism operations and products in PAs;
- Introduce sustainable PA management awareness creation measures to ecotourism concessionaires and other travel and tourism industries as well as encourage and incentivize them to adopt sustainable procedures (including also 3Rs practice in waste management, energy efficiency, and water resource management) for their businesses in PAs;

7. Mechanisms for Implementing Proposed Models

- Promote sustainability standardization, certification and accreditation schemes that encourage responsible and sustainable entrepreneurship among concerned private enterprises;
- Raise and acknowledge the profile of socially and environmentally responsible investment issues within ecotourism concessionaires and other concerned tourism industries;
- Provide information on and regulate development of uses of proper and responsible ecotourism infrastructure (including also sewage treatment plants), facilities, and products (attractions, services, amenities, and activities) in PAs; *and*
- Facilitate multi-stakeholder engagement from other responsible agencies in joint marketing and promotion, in joint product development, and in joint planning processes.



Priority Investments for Ecotourism Development

Sustainable Landscape and Ecotourism Project
in the Cardamom Mountains and Tonle Sap Landscape

Neth Baromey
WB Ecotourism Consultant



WORLD BANK



Approaches









Priority Investments – *Hard Infrastructure*

- Ecotourism information centers / Visitor information & welcome centers ★★ ★
- Toilet facilities with onsite treatment system ★★ ★
- Solid waste management facilities (trash-bins for waste separation, waste collection and transport facilities, incinerators, composting facilities, etc.) ★★ ★
- Pay-toll facilities at the entrances to PAs ★★ ★
- Access roads in the forms of BTSD roads and / or concrete paved roads ★★ ★
- Clean water supply facilities (i.e. wells / tube / pump wells, water storage tanks, water filters, etc.) ★★ ★

Priority Investments – *Hard Infrastructure*

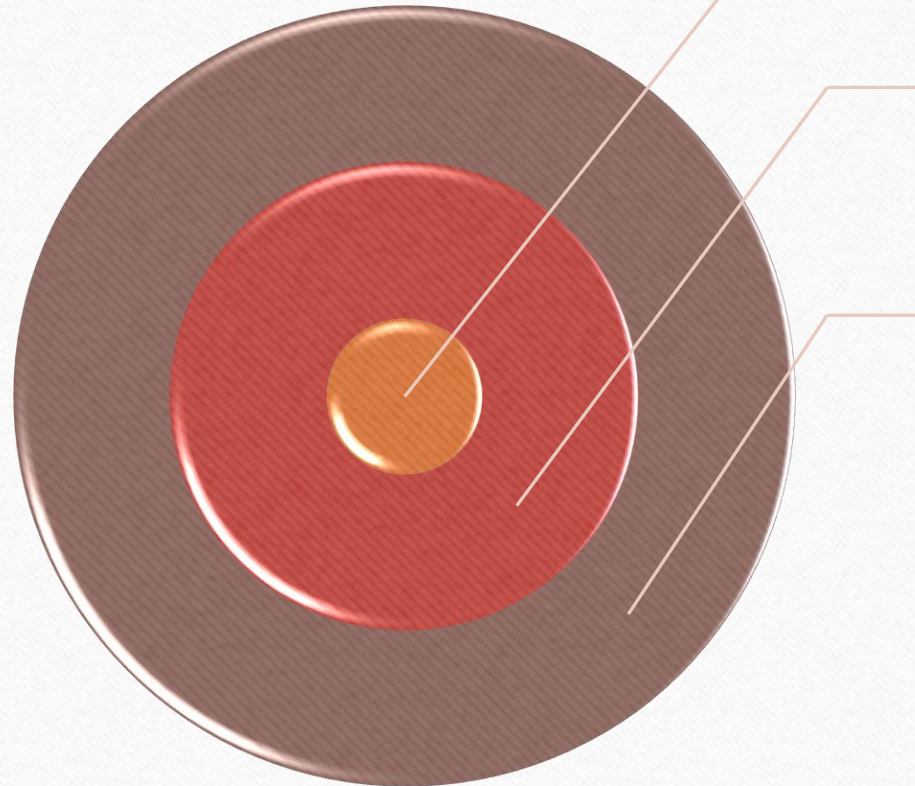
- Tourist boat docks (i.e. Tatai Krom, Peam Krasob, Chong Kneas, etc.) ★★ ★
- Sub-stations or guard stations for PA rangers ★ ★
- Ecotourism maps and circuits ★ ★
- Ecotourism signage ★ ★
- Interpretive or pedestrian paths for ecotourists and visitors inside CPAs / PAs ★ ★
- Sewage system (e.g. using French drain) to avoid pollution of surface water & underground water ★ ★

Priority Investments – *Hard Infrastructure*

- Energy efficiency system (i.e. improved cook stoves, solar panels, biomass and biogas, etc.) ★ ★
- Risk management facilities (including ranger facilities, i.e. patrol facilities and equipment, wooden staircases with handles, etc.) ★ ★
- Parking facilities (Tatai Krom, Kulen National Park, etc.) – *location specific* ★
- Ecotourist facilities (i.e. bird-watching or natural landscape viewing towers, camp grounds, mountain bikes, kayaks / rowing boats, leisure cottages / kiosks, etc.) – *these could be considered in next phases of the project* ★

Priority Investments

– *Soft Infrastructure*



1. Improve management frameworks for sustainable PAs and CPAs management

2. Capacity building

3. Establish PA ecotourism knowledge management platform

Priority Investments – *Soft Infrastructure*

- **Improve management frameworks** for sustainable PA and CPA management ☆☆☆
1. PA land registration
 2. PA boundary demarcation and zonation
 3. Management plan (strategic and action plans included)
 4. Guidelines for ecotourism development and management in CPAs
 5. Guidelines for ecotourism concessions in PAs
 6. M&E measures and toolkits (incl. criteria, indicators, checklists, etc.) for both ecotourism development and management by CPAs and PA concessionaires
 7. Ecotourism handbook / blueprint in PAs and CPAs

Existing Policy and Regulatory Frameworks Related to Ecotourism Development and Concession in Cambodia

Existing Laws / Regulations / Framework	Year
Sub-Decree on the Development of Supreme Tourism Sites	2019
10th Draft Environmental and Natural Resources Code of Cambodia	2018
National Ecotourism Policy	2018
National Protected Area Strategic Management Plan 2017-2031	2017
National Protected Area System Strategic Management Framework	2014
Guidebook on Environmental Impact Assessment in the Kingdom of Cambodia	2012
Cambodia Environment Outlook	2009
<u>Prakas</u> on Guideline for Conducting Environmental Impact Assessment Report	2000
Tourism Reform Plan 2015-2020	2015
Tourism Development Strategic Plan 2012-2020	2012
National Forest Programme 2010-2029	2010
Law on Tourism	2009
Protected Area Law	2008
Law on Concession	2007
Sub-Decree on Environmental Impact Assessment Process	1999
Tourism Master Plan Development for <u>Mondulkiri</u> Province as an integrated ecotourism development hub in Northeastern Cambodia	On-going
Tourism Master Plan Development for <u>Keb</u> Province	On-going
Master Plan for Tourism Product Development and Tourism Industry Development	On-going

Priority Investments – *Soft Infrastructure*

- **Capacity building** ★ ★ related to: (1) PA and CPA management; (2) relevant legal, policy and regulatory frameworks; (3) ecotourism and hospitality skills trainings; (4) ecotourism entrepreneurship; (5) environmental management system and related skills and practices; (6) green standardization & eco-certification; and (7) language and communication skills.
- MoE & PA management: (1), (2), (5), and (6)
 - PA rangers: (1), (2), (5), (6) and (7) – *in case they are collaborating with or supporting CPAs, (3) is also vital for them*
 - Ecotourism concessionaires: (1), (2), (5) and (6)
 - CPA & CBET management committees: (1), (2), (3), (4), (5), (6) and (7)

Priority Investments – *Soft Infrastructure*

- Establish PA ecotourism knowledge management platform ★★ incorporating the following functions:
1. Gather up-to-date ecotourism information (principles and concepts, orientations, legal and regulatory frameworks, research papers and case studies, destinations / sites and their histories, products, communities, ecosystems, special events, lessons learnt and best practices, contact information, etc.) in PAs and CPAs in the target provinces and across Cambodia
 2. Digitalize, host, and publish PA ecotourism information through interactive and proactive online platform
 3. Conduct marketing and coordination of PA ecotourism through online platform
 4. Collaborate with relevant stakeholders and development partners to innovate ecotourism products and services in PAs and CPAs through R&D
 5. Perform as capacity developers and accreditors of green standardization and eco-certification of ecotourism sites / destinations / investments in PAs and CPAs
 6. Organize PA ecotourism knowledge sharing events for all relevant stakeholders

Priority Investments – *Soft Infrastructure*

➤ **Proposed outline of guidelines for ecotourism concession in PAs**

- Introduction
- Getting to know relevant legal and regulatory frameworks
- Ecotourism concession rights in PAs
- Steps in planning and applying for ecotourism concession in PAs
- Master plan development and feasibility study for ecotourism concession
- Environmental impact assessment
- Licensing ecotourism concession and awarding protocol
- Dealing with contractual agreements, revenue management and distribution
- Managing and monitoring ecotourism concession performance
- Develop PA management capability
- Visitor impact management and quality visitor experience under concession scheme
- Risk and crisis management strategies
- Partnership between ecotourism concessionaire and PA authority
- Sustainable pathways and illustrative activities
- Conclusions

Priority Investments – *Soft Infrastructure*

➤ Proposed outline of guidelines for ecotourism development and management in CPAs

- Introduction
- Getting to know relevant legal and regulatory frameworks
- Ecotourism development rights in CPAs
- Steps in registering CPA and in planning for ecotourism development in CPAs
- Conducting feasibility study for ecotourism development in CPAs
- Management plan (environmental management & ecotourism management plan) formulation
- Awarding ecotourism development in CPAs and licensing protocol
- Developing contractual agreements, revenue management and distribution mechanism
- Monitoring ecotourism business performance
- Building community capability for ecotourism
- Visitor impact management and quality visitor experience through ecotourism in CPAs
- Risk and crisis management strategies
- Partnership between CBET community and PA authority
- Sustainable pathways and illustrative activities
- Conclusions

Thank You!

