

Sustainable management of ASEAN Heritage Parks through valuing and improving eco-tourism

**Korea Environment Institute (KEI)
ASEAN Centre for Biodiversity (ACB)
Makiling Forest, Tarutao National Park**

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Introduction

Background

- Eco-tourism is one of the most important ecosystem services, providing a powerful incentive for national and local economies which is also highlighted in SBSTTA20.
- ASEAN Member States declared **‘ASEAN Heritage Parks(AHPs)’** to increase effectiveness of management, including eco-tourism, on certain protected areas with high conservation importance.

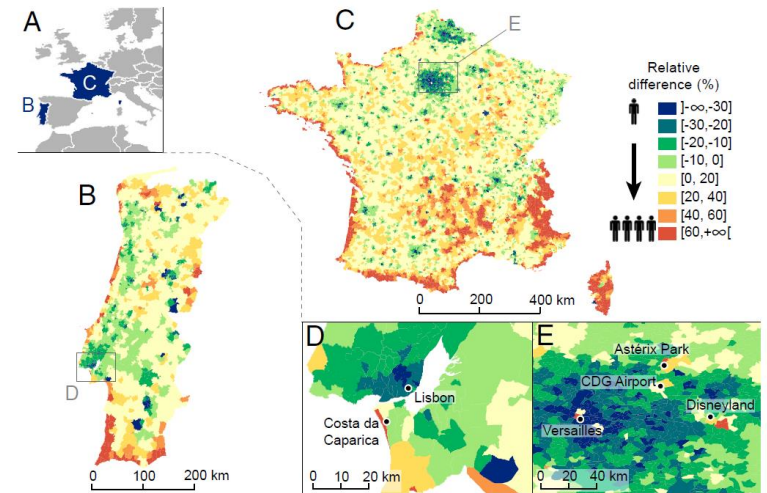


Location of 37 AHPs

Background

- However, due to lack of data, it is a challenge to monitor eco-tourism and set specific management plan for eco-tourism in AHPs.

⇒ ASEAN Centre for Biodiversity(ACB) asked for a science/technology-based approach that can be easily utilized in AHPs to assess status of eco-tourism.



Dynamic population mapping using mobile phone data

Deville et al. 2014

Objectives

- Korea Environment Institute (KEI), in collaboration with ASEAN Centre for Biodiversity (ACB), will apply an **innovative modeling approach using social big-data to examine the current status of management, and support the development of related management strategies encouraging eco-tourism** that enhances cultural services in AHPs.
 - ⇒ Measuring and mapping **the value of nature-based tourism & recreation** to a place
 - ⇒ Understanding what characteristics of the ecosystem **attract tourists or deter them from visiting**

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Designing BBI pilot-project

Key Elements of BBI

Reflecting needs of
developing countries

Partnership between
institutions

Support
Implication of
Aichi Targets

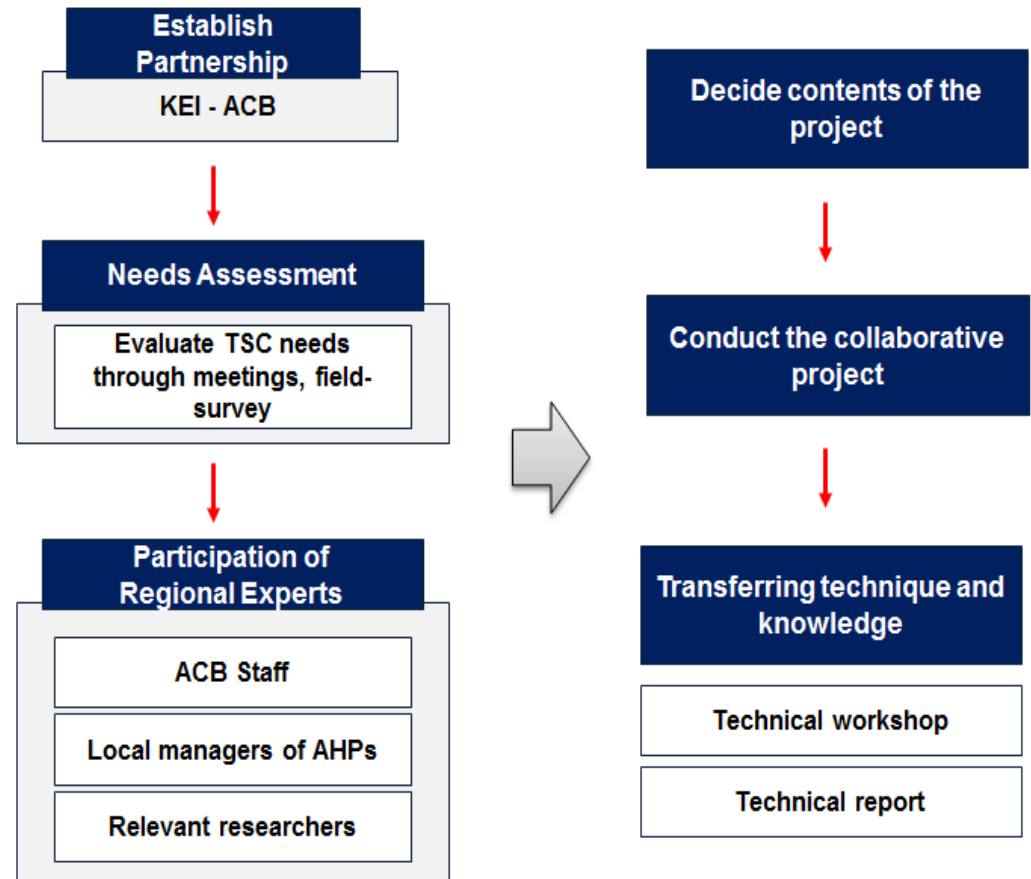
Showcase for
best practices

Collaborative actions to
transfer
technic and knowledge

Close coordination
between experts

Key strategies to implicate BBI's objective

- A. Facilitate the linking of needs through **effective partnerships** between KEI and ACB
- B. Participation of **regional experts**
- C. **Transferring techniques and knowledge**



Key strategies to implicate BBI's objective

Field-survey in AHPs (Mt. Makiling, Philippines)



Exploring needs on management of AHPs
with local institutions(ACB) and local experts



Confirmed project sites

The research project will be piloted in two sites, namely:

- 1) Mt. Makiling Natural Reserve, Laguna Province, Philippines
- 2) Tarutao National Marine Park, Satun Province, Thailand

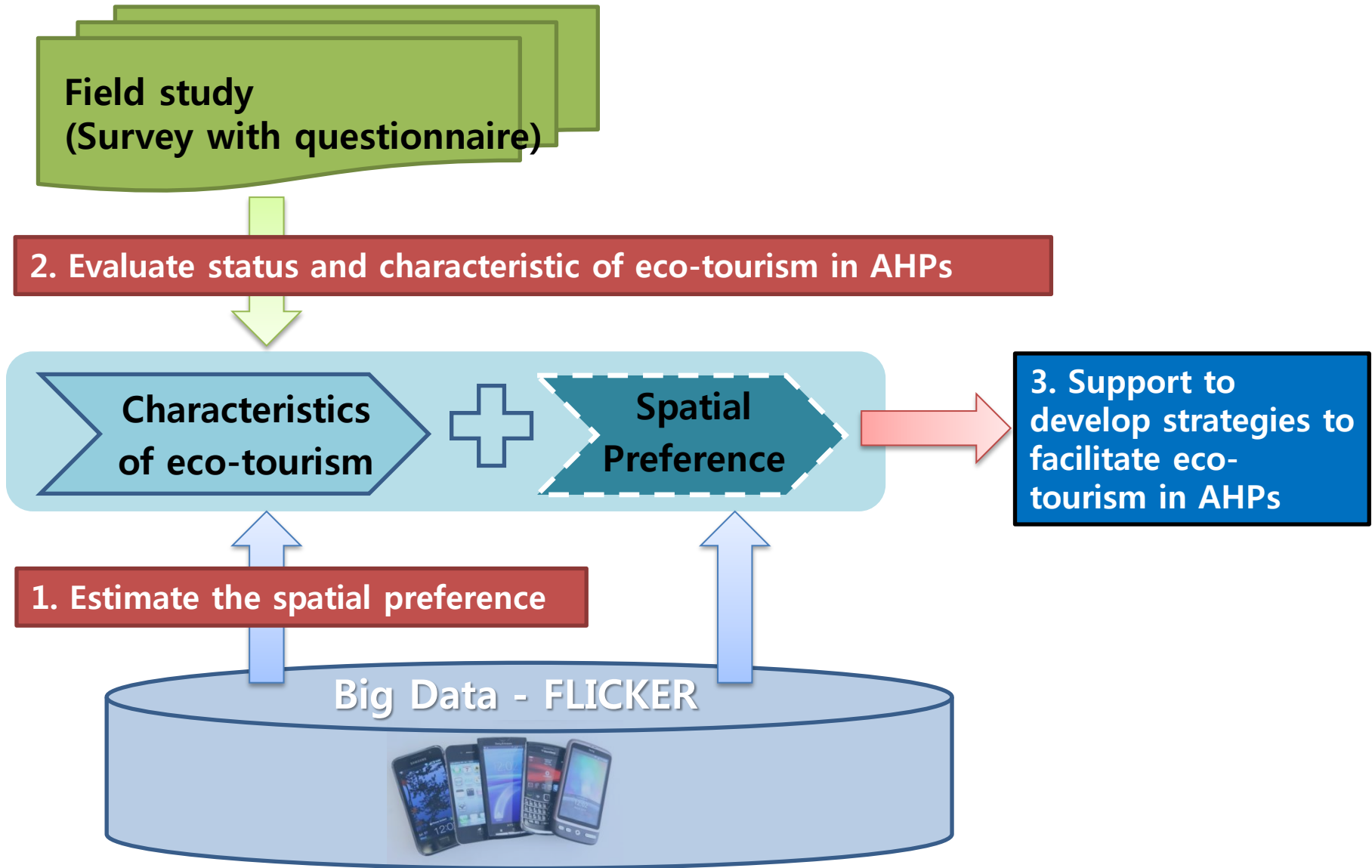


Mt. Makiling



Tarutao Park

A Framework to evaluate eco-tourism in AHPs



Contents of the project

Transfer technologies and knowledges to assess the current status on eco-tourism in AHPs

Technical modeling on the status of eco-tourism using social big-data

Field study(based on questionnaires) to evaluate status of eco-tourism

A training workshop on modeling technique and best practices in eco-tourism management



Support to develop strategies for sustainable management

Contents of the project

(1) Transferring technologies and knowledges to assess the current status on eco-tourism in AHPs.

- Technical modeling(InVEST Recreation Model) on the status of management using social big-data.
- Field study(based on questionnaires) to evaluate status of eco-tourism.
- A training workshop on technical/scientific approaches to encourage eco-tourism at the 5th ASEAN Heritage Parks Conference.

(2) Support to develop strategies for sustainable management of AHPs

- Deter strong/weak elements, spatial visiting characteristic, and overall trends of eco-tourism in AHPs

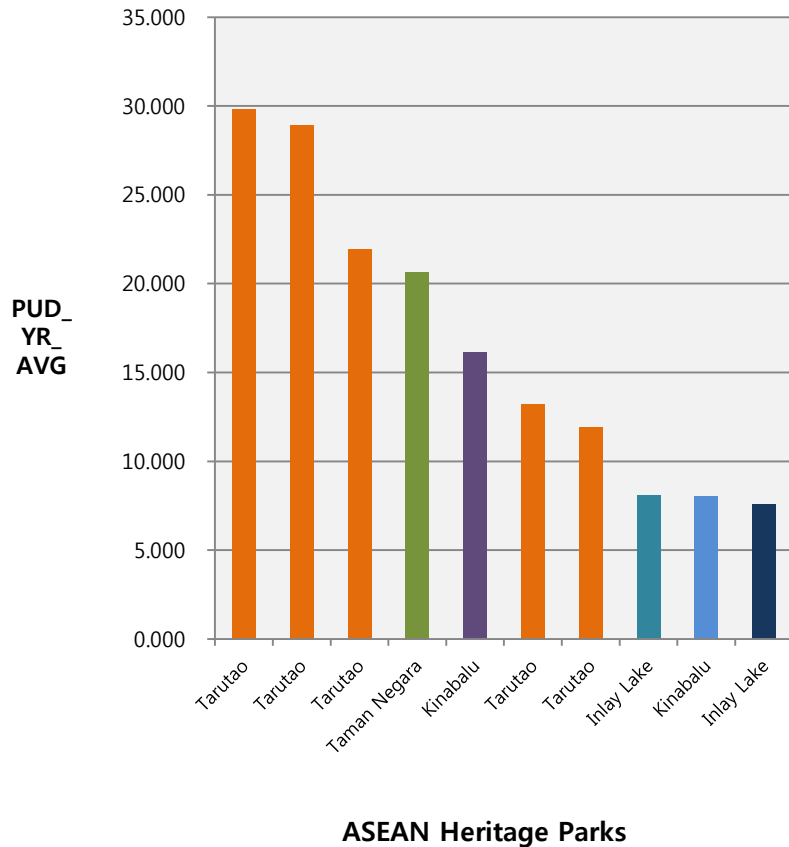
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Results of the project

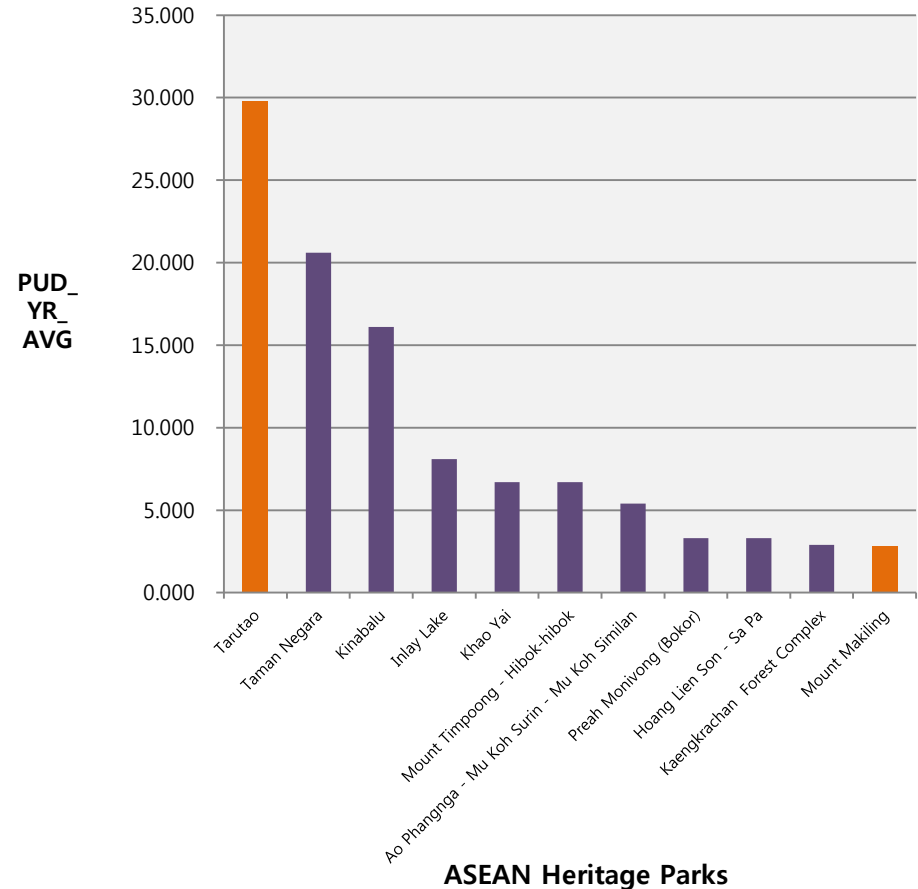
Evaluating spatial preference using social big-data

(1) Identifying ranking of AHPs with higher preference in FLICKER

Ranking of PUD



Ranking of AHPs having higher social preference

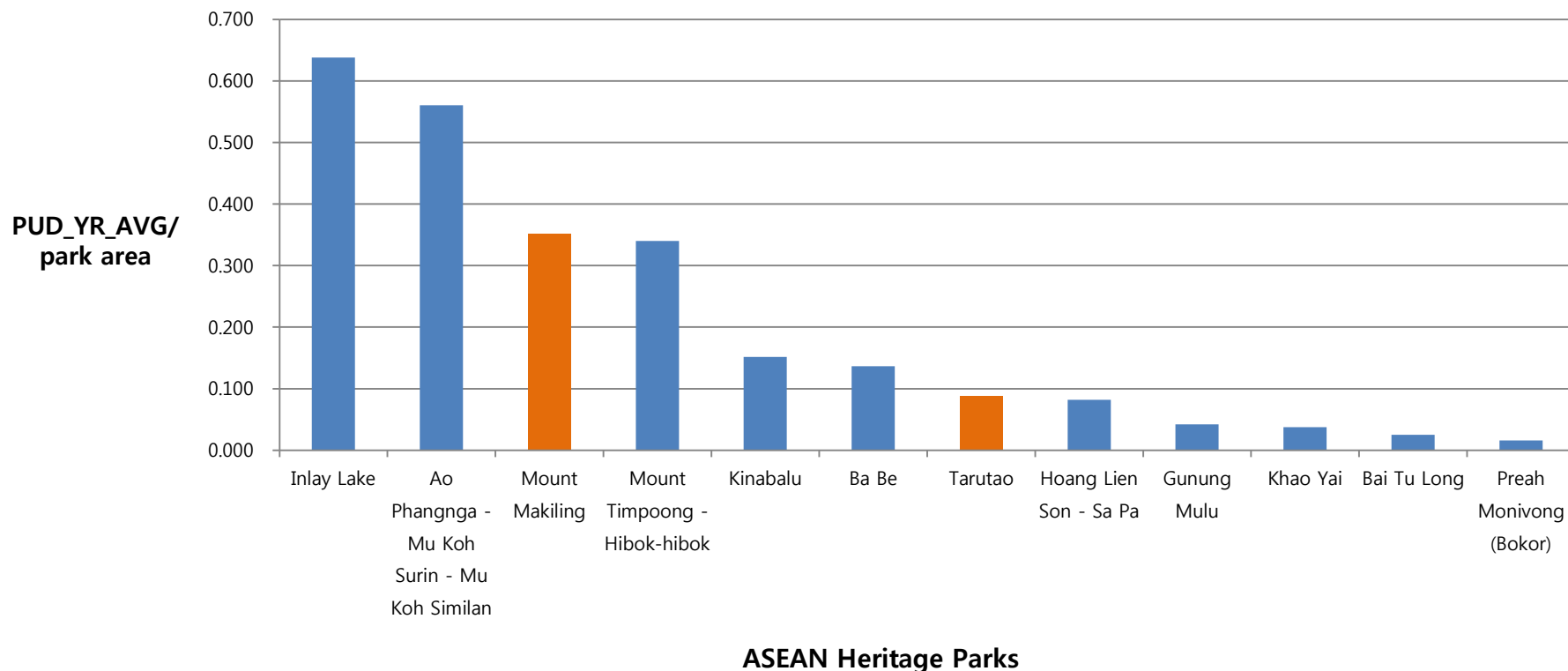


* PUD(Photo-User-Days): Mean uploaded number of geotagged photographs per day in Flickr from 2005 to 2014

Evaluating spatial preference using social big-data

(1) Identifying ranking of AHPs with higher preference in FLICKER

Top 12 AHPs with highest 'PUD per park area'

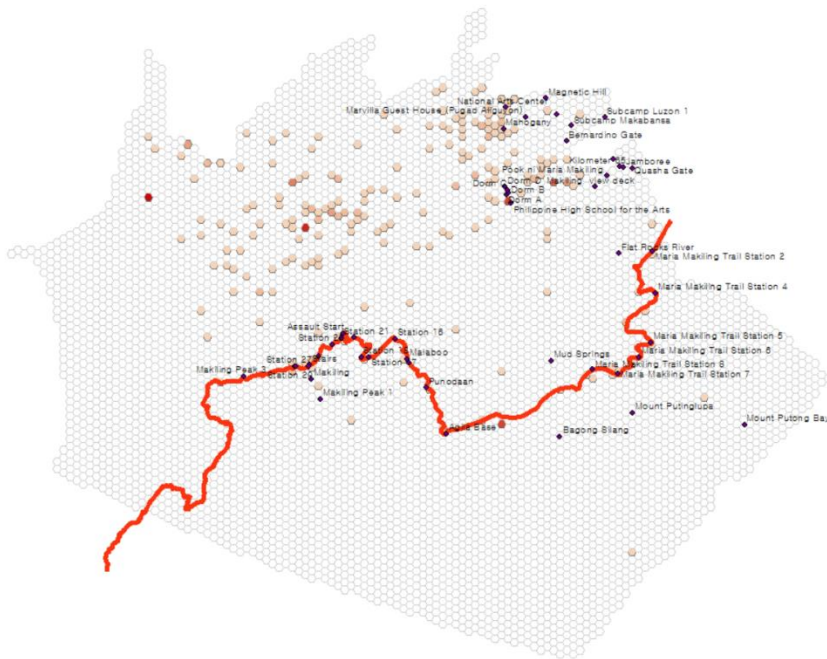


Support to analyze trend of eco-tourism after designating AHPs

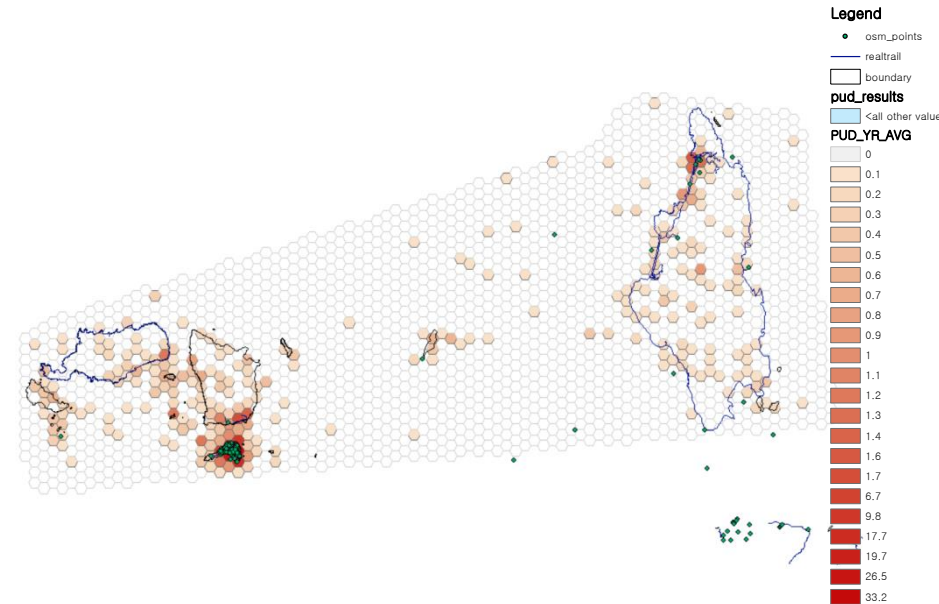
Evaluating spatial preference using social big-data

(2) Identifying specific visiting characteristics for two sites

Makiling AHPs



Tarutao AHPs



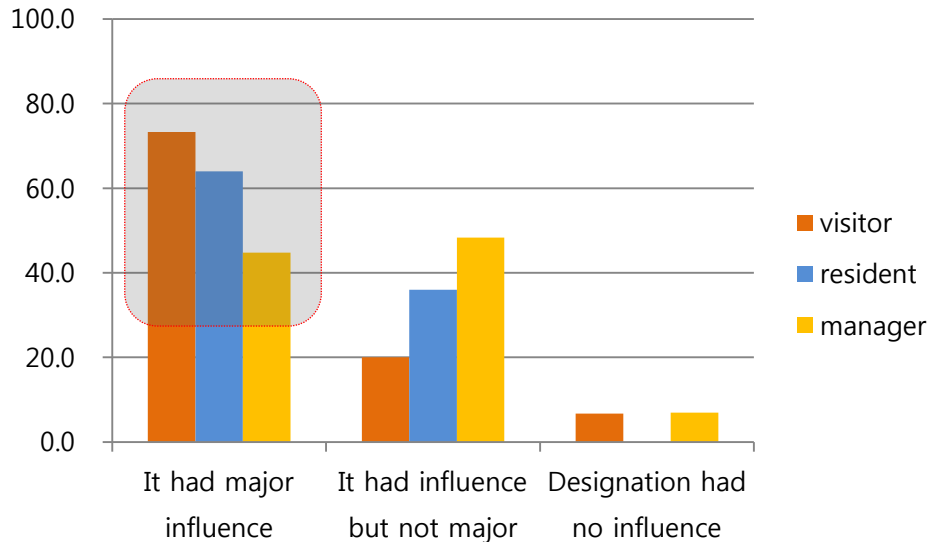
Provide spatial characteristic identifying frequently visiting natural and artificial attraction, landscape and spot

Identifying specific characteristics of eco-tourism

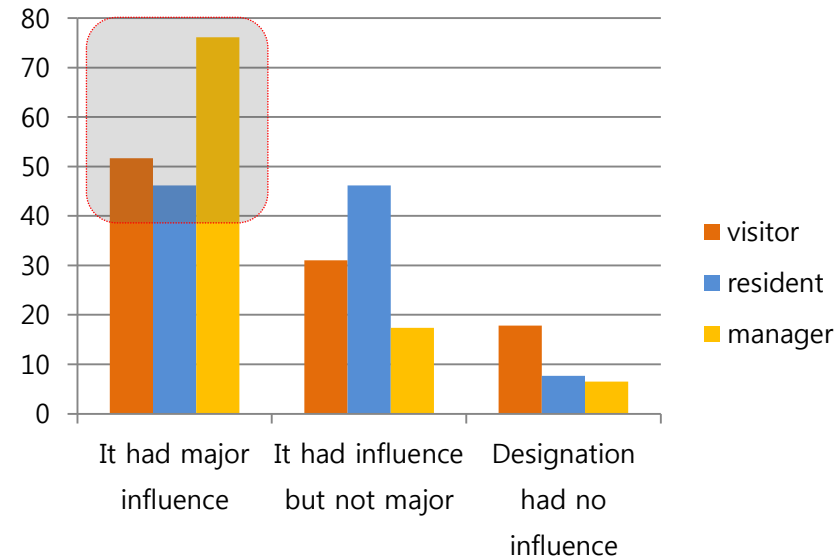
- Through the discussion between KEI's experts and regional experts, three questionnaires were developed for visitor, regional community, and manager
- Regional AHPs managers supported field survey to collect questionnaires
- Total number of respondents: (1) Makiling - 100 (2) Tarutao - 142

(1) Effectiveness of AHPs to eco-tourism among two national parks

Makiling AHPs



Tarutao AHPs



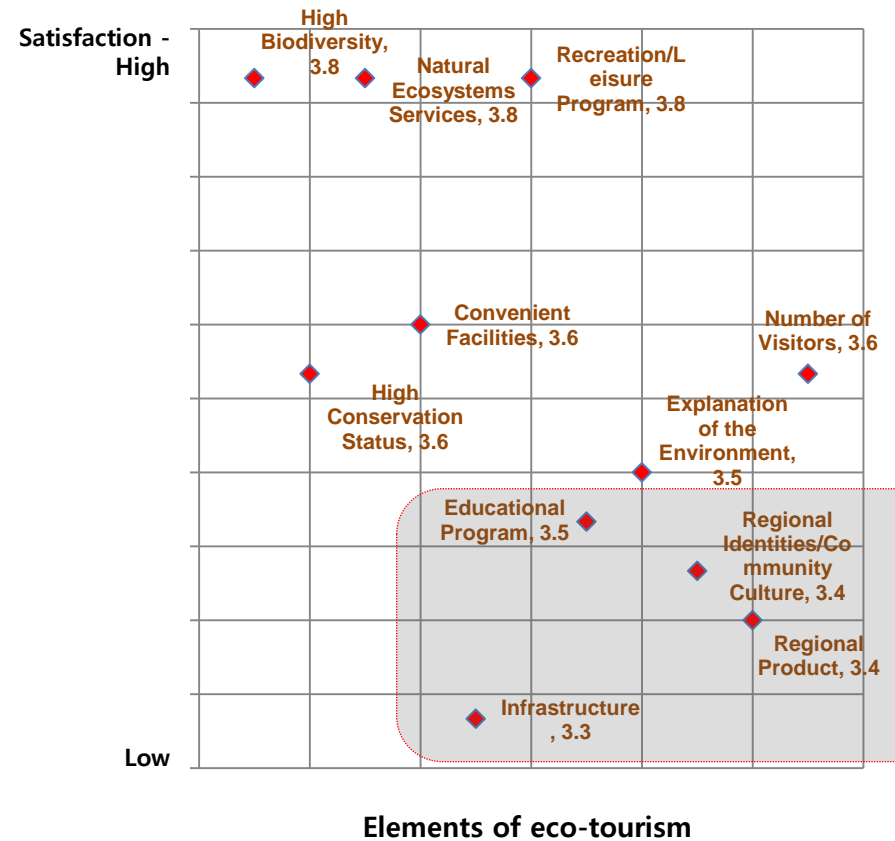
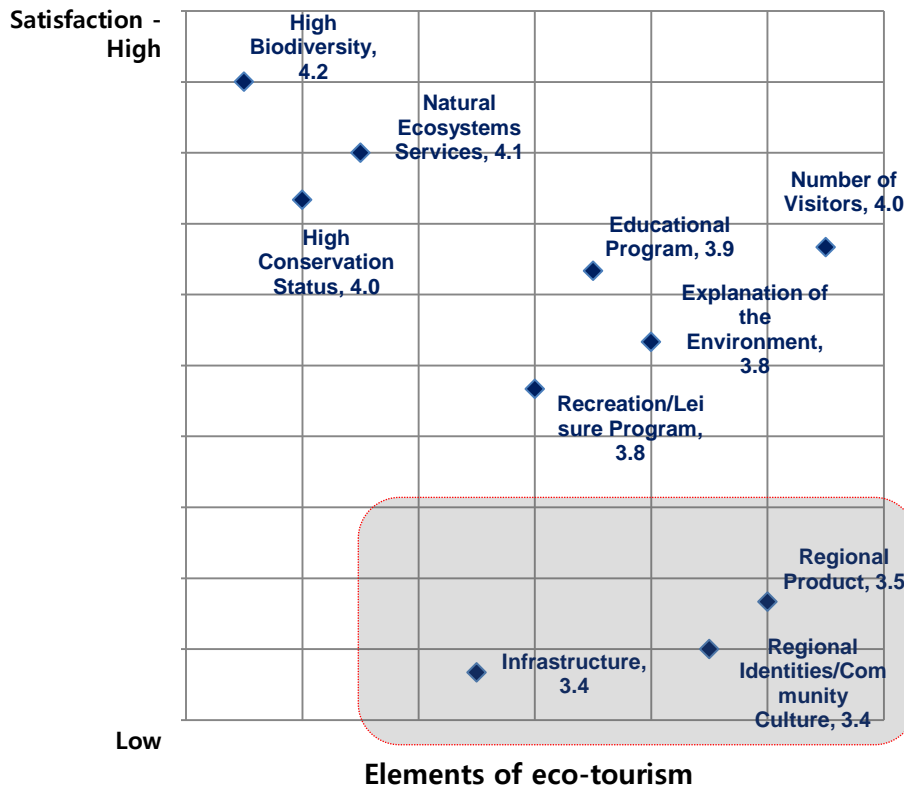
Among (1) biological, ecological value (2) social, cultural value and (3) facility, designation of AHPs had major influence to increase biological and ecological value

Identifying specific characteristics of eco-tourism

(2) Visiting satisfactions of each attributes of eco-tourism

Makiling AHPs

Tarutao AHPs



Identifying specific characteristics of eco-tourism

(3) Suitability of management budget

Makiling AHPs

After AHP designation, did management budget increased ?

Managers: 55.6% said Yes

Was it sufficient?

Managers: **90.5 % said No**

How was the budget increased?

increased external funding: 68.2 %

increased government funding: 22.7 %

Tarutao AHPs

After AHP designation, did management budget increased ?

Managers: 88.9% said Yes

Was it sufficient?

Managers: 68.9 % said Yes

How was the budget increased?

increased government funding: 57.8%

increased admission fee: 31.1%

Transferring technologies and knowledges

Technical Workshop in Bukhan National Park, Republic of Korea



Transferring techniques to use social big-data to assess spatial preference
Identifying elements that need to be improved based on field study
Introducing Korea's management strategies of national park

4

Conclusion

Conclusion

- The places people visit reveal their preferences about natural environments
- Use of social big-data made available to assess spatial preference, and AHPs managers were able to recognize where it needs to be well and newly managed
- Within spatial data, results of field-study provide insights to identify status of eco-tourism to identify strong and weak elements
- Transferred technique, knowledge, and result of the BBI pilot project can be further utilized in management of AHPs to effectively implement Aichi Target 1, 11, 14.

Thank You
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