

2018 ESP Asia Conference

Communicating and Engaging Ecosystem Services

In Policy and Practice in Asia.

9 - 12 October, 2018. Dehradun, India

Book of Abstract

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I. SESSION DESCRIPTION

ID: T8

Title of session:

How do we assess threats to cultural ecosystem services? – Toward Asian Red List of CES

Hosts:

	Title	Name	Organisation	E-mail
Host:	Mr.	Takahiro Ota	Nagasaki University, JAPAN	picus.awokera@gmail.com
Co-host:	Mr.	Masayuki Takada;	Hosei University,	mtakada@hosei.ac.jp;
	Mr.	Toshiya Matsuura	Forestry and Forest Products Research Institute	matsuu50@affrc.go.jp

Abstract:

We, Asian countries, are facing sudden and/or gradual loss of ecosystem services. Especially, cultural ecosystem services (CES) are widely threatened in both developing and developed countries. This is mainly because many countries and regions are experiencing changes of condition of social and ecological system. One urgent measure to be considered and implemented is assessing and categorizing the extent to which CES are threatened. In terms of species and ecosystems, there is IUCN RED LIST and local lists. Conservation investments can be based on these prioritizing target. We can learn their accumulating knowledge to establish framework for CES. Maron et al. (2017, TREE) suggested basic assessment framework for ES threat. Their categories into which a given ES falls are determined “by the current ratio of supply to demand, in combination with recent or anticipated trends in both supply and demand”. The session borrows their concept as a basis and we discuss how to ameliorate it to fit in our Asian context. The session aims to discuss following requisites of assessment framework: spatial boundary; temporal trends; dependence on ecosystem type; quantification of supply and demand; value orientation and assessment; making inventory of



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CES; relationship among CES and other ES; relationship between framework and social-ecological system; connection with existing frameworks for threatened species and ecosystems; connection with existing protection system for cultural property or heritage. The session asks presenters to introduce your cases about CES and suggest your own opinion to establish the framework in any above points. The session will also include researchers and practitioners and serve as an interdisciplinary platform that will seek to integrate knowledge and experience across disciplines and cultures.

Goals and objectives of the session:

The goal is to explore and identify challenges and prospects about Asian Red List of CES (but not limited to one geographical scale). The session is willing to share existing knowledge and contribute to any attempts to establish such assessment framework.

Planned output / Deliverables:

Consolidate a multidisciplinary community of researchers and practitioners in cultural ecosystem services, cultural heritage, biological conservation and related fields

Launch the initiative to write a joint review paper based on the title of the session

Launch the initiative to prepare a joint research proposal

Related to ESP Working Group/Natioanl Network:

TWG 8 - Cultural services & Values



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II. SESSION PROGRAM

Date of session: Wednesday, 10 October 2018

Time of session: 11:00 – 13:00

Time	First name	Surname	Organization	Title of presentation
11:00-11:15	Takahiro	Ota	Nagasaki University, Japan	Introduction
11:15-11:30	Andy	Choi	National Institute of Ecology, South Korea	Economic valuation of ecosystem services from intertidal mudflats in South Korea: A choice experiment study
11:30-11:45	Divya	Subramanian	Indian Institute of Technology, India	Co-Production of Recreation: Improving Cultural Ecosystem Services in the Urban Indian context
11:45-12:00	Emma	Karki	International Water Management Institute, Nepal	Ecosystem and Hydropower Development: Diverse voices forming localised opinions
12:00-12:15	Takahiro	Ota	Nagasaki University, Japan	Importance of making inventories of wetland's cultural services: introducing efforts in Japan
12:15-13:00			Discussion	



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III. ABSTRACTS

1. *Type of submission: Abstract*

T. Thematic Working Group sessions: T8 – How do we assess threats to cultural ecosystem services? – Toward Asian Red List of CES

Economic valuation of ecosystem services from intertidal mudflats in South Korea: A choice experiment study

First author(s): Andy Choi,

Other author(s): Chi-Ok Oh

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Yellow Sea intertidal mudflats, as one of the major coastal wet lands, provide diverse ecosystem services, such as stopover sites for shorebirds, storm protection, coastal stabilization, food production, water purification, and tourism opportunities. However, in 2006, the Seocheon intertidal mudflats, which are located in the South Korean side of Yellow Sea, were subject to an intensive conflict as per the future usage of this area between conservation and coastal reclamation for an industrial development project. Although the development project was cancelled, estimation of the economic value accrued from the Seocheon intertidal mudflats conservation is imperative in understanding the importance of resource protection vis-à-vis destruction. This study aims to estimate the economic value of the ecosystem services provided by the Seocheon mudflats. A choice experiment was carried out in 2015 with four choice attributes: number of migratory birds, annual shellfish products, annual tourists and livelihoods of local residents in the project site. The results from a national sample showed that the average amount of willingness to pay (WTP) per person was estimated to be about 10,000, 3,800, 6,600, and 13,6000 KRW(Korean Won), respectively for keeping 90,000 migratory birds from disappearing, 200 tons of shellfish products, 50,000 tourists, and 1,000 local households. In order to showcase a symbolic aggregation value, economic benefits accrued from these ecosystem services were added up to be 34,000 KRW per person. Considering the size of the population of South Korea, the total economic benefit was estimated to be about 1.4 trillion KRW (US\$1.1 billion). Accordingly, the intertidal mudflats offer highly-valued ecosystem services that might be difficult to justify any form of destructive activities. This study not only highlighted a



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legitimacy case for a conservation path involving mudflats, but contributed to the future policy-making process by providing a new analytical framework.

Keywords: Ecosystem services, intertidal mudflats, choice experiment, willingness to pay, nonmarket valuation

2. Type of submission: Abstract

[T. Thematic Working Group sessions: T8 – How do we assess threats to cultural ecosystem services? – Toward Asian Red List of CES](#)

Co-Production of Recreation: Improving Cultural Ecosystem Services in the Urban Indian context

First authors(s): Divya Subramanian, Arnab Jana

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Urban cultural ecosystem services of recreation like playgrounds and parks are the outcomes of the intersection of nature and human interventions of placemaking and activities. This co-production of nature and culture is an essential public amenity and urban infrastructure that greatly impact and improve the urban quality of life. Most Indian cities currently exhibit a grave paucity of recreational open spaces which are mostly in a state of despair. Provision of safe, accessible and inclusive green public spaces is the 11.7 target of the 2030 Sustainable Development Goals agenda prescribed by United Nations. Currently, there is a lack of a globally convened methodology to achieve this target. The co-production of the recreational ecosystem services using an evaluation framework with crowd-sourced data is utilized to build a symbiotic relationship between the user (citizen) and the service provider (urban local bodies), to ameliorate the condition of recreational open spaces (ROS).

An empirical study of ROS of three Indian cities was undertaken to identify the performance indicators using statistical analysis. A framework for co-production is developed where the identified indicators are utilized on a prototype portal designed for data collection. This



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framework is further tested on select ROS of Mumbai.

The results clearly indicated the problem areas and feasible improvement strategies to increase the use value of these ROS. With co-production of recreation, the management of ROS would become more transparent and aid in informed decision making, preventing biodiversity loss and help protect resources. This would also provide the users a platform to derive amenity specific information and share valuable feedback that could also be incorporated in the stakeholder's decision-making process. With the Smart Cities mission underway in India, the co-production framework could be appropriated for public infrastructure and other urban amenities.

Keywords: Recreational Open Space, Cultural Ecosystem Services, Crowd-Sourced Data, Developing Nations

3. Type of submission: Abstract

[T. Thematic Working Group sessions: T8 – How do we assess threats to cultural ecosystem services? – Toward Asian Red List of CES](#)

Ecosystem and Hydropower Development: Diverse voices forming localised opinions

First authors(s): Emma Karki, Diana Suhardiman

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The push for development in a water resource rich country such as Nepal is resulting in the growth of hydropower projects. Large scale hydropower projects are currently under construction and are expected to provide electricity to the country grappling with power shortage until last year. However, the desire for development comes at the cost of significant loss of biodiversity and threatens the livelihoods of many marginalized communities' dependent on the ecosystem services. Looking at the hydropower project in the Karnali River in the Far Western region of Nepal, we seek to explore the ramifications of the Upper Karnali Hydropower project on the upstream and downstream communities and their livelihoods. The perceptions and therefore the support to the project is strongly linked



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to the benefits expected from the project and vary depending on the location of the village in comparison to the proposed dam location. Downstream fishing communities with strong cultural ties to the river are at highest risk since they lack skills to diversify their income or relocate. Voices from the smaller marginalized communities are also largely unheard in the decision making process and therefore not incorporated in the plans to resettle and compensate the affected communities. Using the Karnali case study, we examine the various ecosystem services that get disregarded in the name of overall development and how the affected communities shape their overall view of the project depending on their compensation arrangements rather than long term impact on their surrounding ecosystem.

Keywords: hydropower; Nepal; local voices; ecosystem services; compensation arrangements

4. Type of submission: Invited speaker abstract

[T. Thematic Working Group sessions: T8 – How do we assess threats to cultural ecosystem services? – Toward Asian Red List of CES](#)

Importance of making inventories of wetland's cultural services: introducing efforts in Japan

First author(s): Takahiro Ota,

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When assessing threat level of a cultural ecosystem service (CES), it is important to have comprehensive list of the target CES in a target area. We introduce an effort to make national and local inventory of wetland CES in Japan. These inventories cover broad CES categories. They divide wetland culture into three pillars: culture for conservation and restoration; culture of wise use; Culture of CEPA. These three components underpin existence or emergence of wetland culture. The effort gathered more than 150 CESs throughout the country in the three categories (partly published: Tsujii and Sasagawa, 2012). It also proceeds to make local inventories (e.g, Hokkaido area). This effort applied to East Asian area (Sasagawa et al. 2015). We present some results of analysis using information of these inventories and discuss how to utilize these inventory for wetland conservation planning and management. We also discuss how and what kind of information to be



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gathered in such inventory to assess threat level.

Sasagawa et al. (2015) Wetland culture in East Asia: A lasting legacy of skills, knowledge and wisdom. Wetlands International.

Tujii and Sasagawa (2012) 33 Examples of the Cultures and Technologies of Wetlands in Japan. Wetlands International.

Keywords: wetland, CEPA, wise use, conservation and restoration, planning and management