

3rd ESP Asia Conference

14-17 December 2021 | Nagasaki, Japan

Eco-health and ecosystem services in Asia:
Bottom-up aspects for planetary health

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BOOK OF ABSTRACTS

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I. SESSION DESCRIPTION

ID: T9b

ESP Asia Forum: Special Issue on “Gauging people’s sense of wellbeing from Eco-health perspectives in Asia” in ECOSER

Hosts:

	Title	Name	Organisation	Email
Host:	Professor	Minoru WADA	Nagasaki University	miwada@nagasaki-u.ac.jp
Co-host:	Manager	Lee Namue	ESP Asia regional office	namue.lee@esp-asia.org

Abstract:

People can have a sense of wellbeing under proper access to ecosystem services. However, due to multiple stresses caused by climate change, excessive economic development and exploitation of natural resources, it has become more and more difficult for people interacting with ecosystems to feel secure about their health and wellbeing in recent years. In order to help alleviate people’s suffering, it is crucial to know how they live and what they need in coping with the ever-changing environment. One of the ways to get the picture of people’s health and wellbeing is to look at their traditional food and livelihood, particularly through farming (agriculture) and fisheries that have relied on sustainability of the ecosystem services. In this session, we call for contributions that address challenges or provide practical insights in gauging the health and wellbeing under diverse interactions between humanity and ecosystem services in Asian rural and urban areas.

Goals and objectives of the session:

The main goals of this session are to:

- Discuss about suggested issues in Asia and compile related research findings for special issue publication in ECOSER
- Identify research gaps, learn from one another about eco-health in Asia and share common findings at the end of the Conference.
- Establish a relationship with TWG9 ‘Ecosystem Services and Public Health’ and strengthen a partnership

Planned output / Deliverables:

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To publish a special issue, “Eco-health in Asia” in the journal of “Ecosystem Services (ECOSER)”

- This special issue will aim at addressing research gaps, methodologies and policy implications of public health effects of ecosystem services approaches in Asia

Planned timeline of the suggested special issue publication

- By the end of Sept. 2021: Call for papers at the website of Elsevier ES

- Dec. 16, 2021: Presentation of research abstracts and papers

- By the end of Feb. 2022: Submission deadline of manuscripts at the ECOSER

- March, 2022 ~: Processing reviews (* in general, peer review process will take 6-8 months)

Related to ESP Working Group/National Network:

TWG9-ES and Public Health

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II. SESSION PROGRAM

Date of session: Thursday, 16 December 2021

Time of session: 11:30-13:00

List of abstracts and speakers

Time	First name	Last name	Title of presentation
11:30-11:35	Minoru	WADA	Welcome
11:35-11:45	Namue	LEE	Explanation of previous Fora + plans for Special Issue
11:45-12:00	Qianzi	JIANG	Public Perception of Pondscape Changes during Urbanization: A Case Study of Liangjiang New Area, Chongqing, China
12:00-12:15	Yuta	Uchiyama	Review of integrated research on human well-being, ecosystem services, and spatial characteristics of cities: research trends and future directions
12:15-12:30	Maiko	Nishi	Interlinkages between land rights, value perspectives, and wellbeing of farmers in the context of agricultural abandonment of Japan
12:30-12:45	JINGJING	YAO	Awareness and WTP for Chinese traditional medicine/supplement in novel market :An example of edible bird nests in Jakarta
12:45-13:00	Abdullah Al	Masud	Assessment of Unacknowledged Urban Ecosystem Services: a Case Study in Khulna City
13:00-13:15	Chiho	Watanabe	Planetary health: ecological views of the health
13:15-13:40	Namue	LEE	Discussion with SI editors Panelists : Jun Yang, Roman Carrasco, Takahiro Ota

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III. ABSTRACTS

Public Perception of Pondscape Changes during Urbanization: A Case Study of Liangjiang New Area, Chongqing, China

Presenting author: Qianzi Jiang

Contact: jiangqianzi@sdjzu.edu.cn

Multi-functional landscape with tradition wisdom is increasingly believed to have profound capacities in providing inspirations for ecological design to sustain our future. However, the evolution and the transition of multi-functional landscape with traditional wisdom in modern society is an important and considerable problem. Pondscape is a production system and land use pattern which was created by ancient people to adapt to droughts and floods together with many other ecosystem services during a long traditional farming culture. However, China's rapid urbanization process has not fully recognized the values of pondscape. Many ponds were abandoned or buried or changed with lost ecosystem services. To what extent people would value or perceive the ongoing pondscape changes during urbanization has not been investigated. Taking Liangjiang New Area in Chongqing as an example, the aim of this study was to explore public perception of pondscape changes by assessing the opinions of urban and rural residents about the ecosystem services and changes of pondscape and the preference for the future scenarios. The methods of second-order clustering, descriptive statistical analysis, non-parametric test, and correspondence analysis are applied. The results show that the evaluation of the importance of rural aborigines, urban aborigines, and urban immigrants to the supply services is consistent; the importance evaluation of support and culture services shows more differences; people with urban living experience think those services are more important. There are some differences in the public attitude towards the abandonment of pondscape; the attitude towards pondscape reconstruction is consistent, and it is generally believed that partial reconstruction is needed. The three groups yearn for a landscape between modernization and localization: transitional landscape. The study findings can be taken into consideration on the transformation of pondscape and the transition of multi-functional landscape with traditional wisdom in modern society.

Review of integrated research on human well-being, ecosystem services, and spatial characteristics of cities: research trends and future directions

Presenting author: Yuta Uchiyama

Contact: yutanu4@gmail.com

Based on the existing studies on human well-being and ecosystem, policy implications for urban environmental management can be provided by considering factors including the spatial and temporal characteristics of cities, population structure, and existence of natural capital. The existing studies were mainly conducted in the fields of public health and city planning including park management. The research trend of such analysis is changing from low-resolution data analysis to high resolution (Zip-code districts or detailed grid) data analysis. Furthermore, the latter is dealing with landuse patterns

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as cities' spatial characteristics. For example, in the field of public health, positive correlation between edge density (meters per ha) of green areas and life expectancy in residential districts was detected. The edge density and related heterogeneity index of landuse patterns are correlated with biodiversity in a certain degree. In the recent research using high-resolution data, there are two types of research; one is focusing on macro scale and the other is on micro scale. Regarding the macro scale, rough grid data of landuse patterns were analyzed in the field of city planning to provide implications for improvement of environmental quality. As for the micro scale, detailed characteristics such as vegetation configurations were analyzed and accessible lawn and water body were detected as key features of green areas in terms of public health. Considering such recent trend, research to bridge between macro-scale grid data analysis and micro-scale research (ex. vegetation configuration) is needed to serve the basis for policy making to enhance eco-health, well-being, and biophilia. Such research can contribute to sustainable management of ecosystem services based on cross-scale data analysis. In this paper, future research topics are also discussed. The topics includes; ecosystem management and social cohesion as basis of well-being, urban biodiversity and ecosystem services / disservices, gradients of urbanity and biodiversity.

Interlinkages between land rights, value perspectives, and wellbeing of farmers in the context of agricultural abandonment of Japan

Presenting author: Maiko Nishi

Contact: nmaiko@hotmail.com

Sustainable farmland management hinges on the health and wellbeing of farmers who steward the land in practice. Farmers' rights to farmland constitute their wellbeing by assuring their resource access, whereas their value perspectives play a key role in defining and shaping their wellbeing. In the context of agricultural downturn where economic values of farming and farmland have reduced to a great extent, what values do they assign farmland and how do they exercise their rights to land to maintain and ensure their wellbeing? These are important questions to be addressed for improving agricultural land policy for sustainable development as well as better understanding of the nexus between property rights, values to nature, and wellbeing. Drawing on semi-structured interviews with 26 farmers in a farming community where agricultural abandonment has starkly progressed in Ishikawa Prefecture, Japan, this study examines the interlinkages between land rights, value perspectives and wellbeing of farmers. Qualitative analysis of the interview results elucidates that farmers' value perspectives on farmland intermediate in exercising their rights to land to safeguard and enhance their wellbeing. In particular, their value perspectives have been shaped through their everyday interactions with farmland and people within the community and beyond to meet their wellbeing needs. At the same time, such perspectives largely influence how they manage farmland. Their use rights to farmland increasingly manifest political power to manage farmland, whereas their ownership rights still serve as a grounding for collective efforts in sustaining farmland. Yet, the owners' value perspectives on farmland, including their sense of stewardship, is being minimized through their disengagement in farming. Besides granting and protecting rights to farmland, the nuanced process of forging value perspectives on farmland that contribute to their wellbeing can facilitate sustainable farmland management.

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Awareness and WTP for Chinese traditional medicine/supplement in novel market :An example of edible bird nests in Jakarta

Presenting author: Jingjing Yao

Contact: bb53621808@ms.nagasaki-u.ac.jp

With the spread of COVID-19 pandemic, it seems that our world will have long-term impact on our lifestyle. Nowadays, there is growing concern about how to strengthen immune system to defeat the COVID-19. Therefore, the dietary supplements market size will be expected to expand after pandemic. Meeting consumer needs and reducing unemployment rate will be the tendency of all industries.

The swallow nests has the history more than 800 years. Traditional Chinese medicine considering that the swallow nests has the effect on nourishing the lungs. Nowadays, modern scientific research has identified that it has effect on the immune function.

In 2020 years, the import of swallow nests has increasing 80% comparing with last year. And, there's 80% of swallow nests has been exported from Indonesia. Although, Indonesia people is not familiar with swallow nests. The prospects of swallow nests local sales in Indonesia are bright. This research has investigated how Indonesia consumer's attitudes towards dietary supplements and swallow nests. The results showing that among the effects of dietary supplements people who chose "Prevent disease" has a higher WTP for drink type of swallow nests. The income has little effect on WTP for drink type of swallow nests. At the same time, people who has a habit of taking supplements, the better health condition they are, the higher WTP for drink type of swallow nests they will be. However, different from the early research in Malaysia, male has a higher WTP for drink type of swallow nests rather than female.

This research can provide certain guiding significance for the further expansion of the drink type of swallow nests market in Indonesian.

Assessment of Unacknowledged Urban Ecosystem Services: a Case Study in Khulna City

Presenting author: Abdullah Al Masud

Contact: masudes05@gmail.com

With rapid urbanization, ecosystems are constantly degraded, and their capacity to provide services is compromised, resulting in enormous social and economic costs. The rapid expansion of urban areas focuses less on ecosystem protection. The rapid urbanization of Bangladesh is not an exception due to large populations densities and high land value in the cities. This study aims to identify and value the ecosystem services of growing cities in Bangladesh and explore the people's perception of its importance on human health. Hence, the study selected two growing residential areas (one planned and another unplanned) of Khulna in Bangladesh. At first, an inventory of ecosystem services has been

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explored in the selected study areas. Afterwards, the provisioning and regulating services of urban green (roadside trees) and blue spaces (wetlands) were calculated based on the inventory. Besides, the cultural value was also determined by assessing the perception of local dwellers. The result shows that the total CO2 equivalent value for roadside trees in selected plots was USD 0.081 million/ha/year and USD 0.12 million/ha/year in planned and unplanned areas, respectively. It indicates that the planned areas are indifferent to protecting nature. At the same time, the total value of urban blue space was USD 0.16 Million/ha/year for recharged groundwater of wetlands in the selected areas. The questionnaire survey found that respondents are aware of regulating and cultural services of existing ecosystem services. Hence, about 70% of respondents willing to pay a certain amount ranges from (BDT 50-500) (USD 0.6-6.5) per month for upgrading ecosystem services based on their income level. Furthermore, 29% of respondents argued that they face asthma because of a lack of vegetation, responsible for air pollution. This study helps us realize the importance of protecting and restoring urban ecosystem services for a better environment and city dwellers attitudes towards this process.

Planetary health: ecological views of the health

Presenting author: Chiho Watanabe

Contact:

Planetary health (PLH) is a concept and framework for sustainability research and their implementation, which was first proposed by a Lancet commission in 2015. PLH is defined as health of human civilization and earth systems, which the former depends on. It is emphasized that human health/civilization needs “healthy” earth systems, and to achieve it wise management of nature systems is indispensable. In this presentation, PLH is compared with its related fields like ecohealth, global health, and planetary boundaries. A key feature of PLH is it is putting forward the finiteness of the planet, from where its another emphasis on future generations emerged. PLH first explicitly integrates the ecological determinants of human health in addition to the conventional determinants like social and physical determinants. Since bidirectional and quantitative links between ecosystem and human health/wellbeing are one of the most critical elements in PLH, engagement of researchers dealing with ecosystem services will be well expected.