



THE SECOND
INTERNATIONAL RESEARCH MEETING OF
FOREST CULTURE SCIENCE
IN ASIA

PROCEEDING



FOCUS-Asia

Xinglong, Hainan, China
2025.04.18-22

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Aims of the event

“Forest culture” is a general term for the results of people's active engagement with the various resources and environments that forests provide to human society. It covers a wide range of areas, including food, clothing, shelter, science, technology, learning, art, morality, religion and politics. Culture is developed based on the natural environment of the region, and a wide variety of “forest cultures” are formed, reflecting the characteristics of the region. As a step towards developing forest culture research in the Asian region, the aim of this meeting is to bring together researchers on “forest culture”, build a research network and deepen discussions.



FOCUS-Asia
INTERNATIONAL RESEARCH MEETING
OF FOREST CULTURE SCIENCE IN ASIA

Program

DETAILED SCHEDULE

April 18th Friday

Arrival & Registration

19:00-20:00 Welcome dinner

April 19th, Saturday

Time	Session	Speaker	Affiliation	Topic	Host	
7:00-	Breakfast					
8:50-9:20	Welcome Speech	Bailian LI, Hainan University, China Jun WANG, China Seiji ISHIBASHI, University of Tokyo, Japan				
9:20-9:45	Keynote speech	Liang LI	Beijing Forestry University, China	Cultural Empowerment of Nature—Action in Symbiotic Conservation of Nature and Culture in China's National Parks	Huaiyue LIANG	
9:45-10:10	Keynote speech	Haruo SAITO	University of Tokyo, Japan	Wood Processing Technology and Wooden Tubs and Barrels in Japan: A case study of wood use as culture		
10:10-10:30	Tea break					
10:30-10:55	Keynote speech	Soyeon KIM	Catholic Kwandong University, Korea	Current Status of Forest Healing in Korea	Shuling LI	
10:55-11:20	Keynote speech	Thilak CHANDR ATILAKE	University of Sri Jayewardenepura, Sri Lanka	Forest Culture Science in Sri Lanka—Indigenous Knowledge, Rituals, and Traditional Beliefs		
11:20-11:45	Keynote speech	Larry LOPEZ	Yamagata University, Japan	Use of stable isotopes to understand natural and anthropogenic factors controlling forests in Japan		
11:45-14:30	Lunch Break					
14:30-14:55	Keynote speech	Warong WONGLA NGKA	Chiang Mai University, Thailand	Faith, Forest, and Monks: Cultural Innovation and the Forest Ordination Ritual as a Model for Ecological Landscape management	Wan LI	
14:55-15:20	Keynote speech	Chunlin LONG	Minzu University of China, China	Studies on Medicinal Food Plants in Traditional Forest Culture		
15:20-15:40	Tea break					
15:40-16:05	Keynote speech	Biao HUANG	International Centre for Bamboo and Rattan (ICBR), China	Landscape construction in Bamboo Painting in Traditional Chinese painting—A case study of Dongzhuang in Ming Dynasty		
16:05-16:30	Keynote speech	Sri RAHAYU	Universitas Gadjah Mada	Forest culture in Indonesia		

		(UGM) Yogyakarta, Indonesia	
16:30-16:40	Break		
16:40-17:00	Round-table session	Future for the International Research Meeting of Forest Culture Science in Asia	Seiji ISHIBASHI
19:00-20:30	Dinner		

April 20th Sunday

Time	Session	Speaker	Affiliation	Host
7:00-	Breakfast			
8:30	Gather at the Hall and departure			
8:30-11:30	Morning Tour in Xinglong Tropical Garden			Shoubai LIU
11:30-14:00	Lunch break			
14:00	Beginning of theme session (return to the hall)			
Indigenous Plant Wisdom				
14:00-14:15	Presentation	Qing ZHANG	Yunnan Flower-eating Culture and Sustainable Development of NTFPs	Haruo SAITO
14:15-14:30	Presentation	Yell yell Sally RAHAYU	The dynamics of unconventional food plant consumption in rural Indonesia: Drivers and links to perceived well-being	
14:30-14:45	Presentation	Jingchun YANG	The Role of Plants in the Forest Culture of the Li Ethnic Group's Traditional Settlements	
14:45-15:00	Presentation	Yaqi Gao	A New Framework for Coordinated Community Development in Hainan Tropical Rainforest National Park, China	
15:00-15:05	Session discussion			
15:05-15:25	Tea break			
Community Roots of Forest				
15:25-15:40	Presentation	Shuling LI	From the secret mountain forest to the public scenic spot: a brief introduction to the cultural burst and the evolution of Lingnan Classic Municipal Landscape	Warong WONGLANGKA
15:40-15:55	Presentation	Wan LI	Forest Education in Japan: Practices and Reflections from My Perspective	
15:55-16:10	Presentation	Guanghai MA	An ecological study of boat-houses and traditional settlements of Li people in Hainan	
16:10-16:15	Session discussion			
Health and tradition from Forest				
16:15-16:30	Presentation	Hui ZHANG	How to effectively perform Hainan Forest Health.	Larry LOPEZ
16:30-16:45	Presentation	Hui FU	The Collision of Tropical	

			Rainforest and Li Culture: Innovative Exploration of National Park Community Co- construction	
16:45-17:00	Presentation	Hengyi ZHUO	Fengshui woods culture in Southern China	
17:00-17:05	Session discussion			
17:05-17:15	Short break			
17:15-17:30	Closing ceremony			Hui ZHANG
19:00-20:30	Dinner			

April 21st, Monday

7:30-16:00 Technical tour

Time	Session	Host
6:40-7:50	Breakfast	
7:50	Gather & Departure	
8:00-11:30	Tour at Fenjiezhou island (分界洲岛), Sanya	Shoubai LIU
12:00	Lunch	
Afternoon	Tour at Monkey island (猴岛), Sanya	
18:00-	Return & Dinner	

April 22nd, Tuesday

8:30 Goodbye morning party at the Hotel restaurant, host by Hui Zhang

Keynote Speakers

Prof. Liang LI

Deputy Dean of the School of National Park at Beijing Forestry University, concurrently serving as Deputy Dean of the School of Ecology and Nature Conservation. Executive Director of the Key Laboratory of National Forestry and Grassland Administration for Urban-Rural Landscape Construction. Selected as a member of the Ministry of Natural Resources' Science and Technology Innovation Team. Specializes in research and practice related to national park, regional ecological networks, green infrastructure and greenway, community gardens, green spaces, and public health.

Awarded the Second Prize of Beijing Municipal Teaching Achievement Award as lead contributor. Principal investigator for over 10 research projects, including those funded by the National Natural Science Foundation of China and the Ministry of Housing and Urban-Rural Development. Led or participated in over 20 major engineering projects, including: Master Planning and Design of Central Green Valley and Eastern Stream Valley in Xiong'an New Area's Start-up Zone, Beijing Sub-center Green Space System Special Planning, Beijing-Zhangjiakou Railway Heritage Park Conceptual Planning and Start-up Zone Design. Recipient of 24 professional awards from organizations including: IFLA Asia-Pacific Region, Chinese Society of Landscape Architecture, American Society of Landscape Architects (ASLA), Royal Institute of British Architects (RIBA), Liang Xi Science and Technology Award. Received two directives from national-level leaders.

Dr. Warong Wonglangka

Dr. Warong Wonglangka is a distinguished academic and researcher specializing in Landscape Heritage Conservation, Arboreal Conservation, and Urban Green Space Management. He currently serves as an Assistant Professor in the Department of Landscape Architecture at Chiang Mai University, where he has been contributing to the field of landscape architecture since 2009. In addition to his academic role, Dr. Wonglangka is actively involved in various professional organizations, including his position as Vice President of the Thai Arboriculture Association and as a member of the International Scientific Committee on Cultural Landscapes. His research interests focus on integrating nature and culture within urban landscapes and promoting sustainable conservation practices. Dr. Warong Wonglangka has authored or co-authored over 20 publications in national and international journals and conference proceedings. His work spans various topics, including cultural landscapes, urban green space, and landscape conservation. He is also involved in several research projects supported by the Thai government, such as the restoration of cultural routes and the conservation of landscapes in the northern region of Southeast Asia. Through his work, Dr. Wonglangka aims to bridge the gap between natural heritage conservation and urban development, ensuring the sustainability of cultural landscapes.

Dr. Biao HUANG

Huang Biao, Female, PhD in Landscape Architecture. Senior Engineer, Executive in Charge of Bamboo/Rattan Flowers Landscape Planning & Application, ICBR. She has demonstrated outstanding talent and profound professional expertise in the fields of urban and rural planning, urban greening sustainability, and the ecological aesthetics of bamboo, rattan, and flower-based human settlements. Over the past five years, she has led and participated in multiple major research projects, and has been honored with 15 international and domestic planning and design awards. She has published one monograph and several high-level papers (including those indexed by Springer Nature and SCI), and holds multiple patents and software copyrights.

In the fields of bamboo, rattan, and flowers, bamboo architecture, and forest germplasm resources, she has made significant contributions. Particularly noteworthy are her research achievements and practical projects in the areas of urban ecology of bamboo forest spaces and sustainable utilization of large green spaces, which have attracted widespread attention. She led

the compilation of important documents such as the Sustainability Report for the Chengdu International Horticultural Exposition and the Follow-up Plan for the Beijing International Horticultural Exposition Park. Additionally, she served as the design consultant for the "Chinese Bamboo Garden" at the Almere International Horticultural Exposition in the Netherlands, dedicated to integrating the charm of Chinese bamboo culture with modern design concepts to showcase the unique appeal of bamboo and rattan landscapes. She has been responsible for coordinating and executing research on the sustainable development of urban greening in China.

Dr. Thilakawansa Chandrathilake

Dr. Thilakawansa Chandrathilake is a Senior Lecturer and the Director of the Center for Sustainability at the Department of Forestry and Environmental Science (DFES), University of Sri Jayewardenepura (USJ), Sri Lanka. He is also a Board Member of the Central Environmental Authority (CEA), the apex body responsible for environmental protection, conservation, and management in Sri Lanka.

Dr. Chandrathilake holds a BSc (Hons) in Forestry and Environmental Science from USJ, Sri Lanka, an MSc in Environmental Engineering from Saitama University, Japan, and a PhD in Forest Science from The University of Tokyo, Japan. He specializes in eco-hydrology, forest ecology, water resource management, and biodiversity conservation. His research contributions focus on forest hydrology, climate resilience, and environmental impact assessment, with several peer-reviewed publications in high-impact journals. His expertise has played a key role in policy development, national conservation strategies, and environmental governance in Sri Lanka. Dr. Chandrathilake serves as a Committee Member of the National Forestry Sector Research Committee of the Department of Forest Conservation, Sri Lanka, and contributed to the revision of the Forestry Sector Master Plan (Forest Policy) in Sri Lanka. He has also served as the National Environmental Specialist for donor-funded projects in Sri Lanka and as a Consultant Ecologist for several nationally significant Environmental Impact Assessments (EIAs).

He has collaborated with The University of Tokyo (Japan), Deakin University (Australia), Sri Lanka's Ministry of Environment, and many other government institutes, advancing scientific knowledge in forestry, ecosystem conservation, and urban forestry. As the former President of Section B (Agriculture and Forestry) of the Sri Lanka Association for the Advancement of Science (SLAAS), he has played a vital role in shaping national research agendas. His leadership in forest restoration and sustainability initiatives continues to influence Sri Lanka's environmental policies and conservation efforts.

Prof. M. Larry Lopez C.

Prof. Larry Lopez is a full Professor in the Department of Forestry at the Faculty of Agriculture of Yamagata University, Japan. He is the director of the The laboratory of Smart Forest in the Faculty of Agriculture, Yamagata University. He graduated with the degree of Bachelor in Meteorology from the Faculty of Science, Universidad Nacional Agraria La Molina, Lima, Peru. From 1995 to 2003, with the sponsorship of MEXT (Ministry of Education and Sports of Japan), I joined the MSc and Ph.D. Program at the Graduate School of Environmental Sciences, Hokkaido University. His research interest is on forest carbon, water and nutrient cycles and in recent years the use of Deep Learning to design more efficient and precise models to monitor forest ecosystems using UAV-acquired images. His laboratory, the laboratory of Smart Forest in Yamagata University conducts research on the relation of forest ecosystems with their surrounding environment by means of a multidisciplinary approach that involves soil science, meteorology, hydrology and precise remote sensing.

Prof. Chunlin Long

Prof. Chunlin LONG is a full professor at Minzu University of China, one of China's prestigious universities located in Beijing. He made significant contribution in fields of agrobiodiversity and biodiversity, botany, ethnobiology, natural products, and plant taxonomy. In particular, Prof. Long has studied the relationships between people and plants in different linguistic groups through multi-disciplinary approaches. He published 438 papers in national and international journals. He is a prolific writer and authored 25 books and 19 patents of innovations. Prof. Long has been awarded 19 prizes.

Prof. Long is currently the Chair of Ethnobotanical Committee of China Wild Plant Conservation Association, Vice-President of Chinese Association of Ethnobotany, and Vice-Chair of Committee of Seed Science & Technology, Botanical Society of China. He serves as the Associate Editor of "Genetic Resources and Crop Evolution", and "Journal of Ethnobiology and Ethnomedicine". He is also the editorial board member of various journals including "Archives of Pharmacal Research", "Biodiversity Science", "Diversity", and other journals. Prof. Long is a member of various expert committees or steering committees of Chinese government agencies, such as Ministry of Education, Ministry of Agriculture and Rural Affairs, National Forestry and Grassland Administration, and Ministry of Natural Resources.

Prof. Soyeon Kim

Professor Soyeon Kim is a professor at Catholic Kwandong University located in Gangneung, Kangwon-do, and has been working there since 2022. Previously, she completed her bachelor's, master's, and doctoral studies at Kangwon National University and worked as a senior researcher at the Forest Science Research Institute. Her major is forestry management, it is a field that deals with both economics and public interest. Based on this, she is conducting research on forestry engineering and forest recreation. Her recent research was in the medical field to verify the scientific effectiveness of forest healing for each subject using forest resources. She operates a forest healing instructor training institute to produce experts in the field. She is also researching about forest business models, where she utilizes forest culture. Her ultimate goal is to enable mountain owners to generate profitability through diverse forest management and to contribute to the local community.

Prof. Bing Wang

Professor and Lead Expert at the Chinese Academy of Forestry (CAF), Director of the Chinese Forest Ecosystem Positioning Research Network Management Center, and Doctoral Supervisor. He serves as the Principal Investigator of the Long-term Ecosystem Observation and Network Management Research Group at the CAF Institute of Forest Ecology, Environment, and Protection, and is a member of the China National Committee for the Global Climate Observing System (GCOS). Dr. Wang specializes in long-term observation and modeling of key terrestrial ecosystem processes, forest ecosystem service evaluation, ecological compensation mechanisms, eco-GDP accounting, and standardization systems for forest ecosystem monitoring. His work integrates scientific insights into national ecological policy-making, advancing sustainable forest management frameworks in China.

Prof. Sri Rahayu

Prof. Dr Sri Rahayu is the Head of the Laboratory of Health and Protection, Faculty of Forestry Universitas Gadjah Mada (UGM) Yogyakarta, Indonesia, and has been a Lecturer on Forest Pathology, Forest Health, and Forest Protection since 1993 up to Now (2025), Coordinator of IUFRO WP 7.02.07 Diseases and Insects of Tropical Forest Trees since 2010 up to Now. Most publications and research experiences on Forest diseases in the Tropics, particularly on rust diseases. Has author in over 50 publications in International and National Journal. An active member of some professional societies such as APFISN (The Asia-Pacific Forest Invasive Species Network) and INVASIVESNET (International Association for Open Knowledge on Invasive

Alien Species), APAFRI (Asia Pacific Association of Forestry Research Association. Principle contact of JSPS-C2C 2021-2023, and GX/DX Network 2024-2026 from Indonesia. Concerning forest culture, she has principally assessed Forest Health and Tree risk assessment in Forest recreation, Forests in sacred sites, Urban Forest, and arboretum.

Dr. Yen Yen Sally Rahayu

Dr. Yen Yen Sally Rahayu, Indonesian, postdoctoral fellow at National Research and Innovation Agency (BRIN)-Indonesia. She earned BSc in chemistry, MSc in biochemical science and technology, and PhD in agricultural development studies and interdisciplinary social design and management at the University of Tokyo. Research interests: area studies, food chemistry, and human nutrition.

Her research focuses on (re)valuing biodiversity in today's society. Currently, she is engaged in transdisciplinary area studies exploring the nexus between wild edible plant biodiversity, nutrition, and well-being of rural/local communities in Indonesia.

Dr. Haruo Saito

Dr. Haruo Saito is Director of Arboricultural Research Institute, one of the regional forests of The University of Tokyo Forests. He has specialized in forest policy and has widely studied the relationship between forests and humans from the perspectives of ethnobotany and ethnomycology, as well as commons. He has been involved in ethnographic research on edible plants and fungi for over 20 years and has recently expanded his research to include the culture of wood use.

Prior to his arrival at Arboricultural Research Institute, he had worked at the Fuji Iyashinomori Woodland Study Center of The University of Tokyo Forests for 16 years. During that time, he had engaged in practical research on forest management focusing on recreational and healing functions of forests, and on building relationships between local communities and forests.

Cultural Empowerment of Nature—Action in Symbiotic Conservation of Nature and Culture in China's National Parks

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Chapter

China is establishing a protected area system with national parks at its core, which is poised to become the world's largest national park system. A fundamental objective of China's national park development lies in achieving "harmonious coexistence between humanity and nature." In the global endeavor to protect biodiversity, establishing symbiotic conservation models that balance ecological preservation with human livelihoods remains both a critical focus and persistent challenge for sustainable conservation and development. Drawing upon representative practical initiatives, this presentation will explore pathways for symbiotic conservation of nature and culture in China's national parks through four dimensions: symbiotic wisdom, community engagement, brand value enhancement, and social mobilization. Using the establishment of the School of National Park at Beijing Forestry University as a case study, it will highlight capacity-building explorations in talent cultivation, disciplinary development, and interdisciplinary innovation. These efforts demonstrate how academic institutions provide cultural empowerment for China's national park conservation through specialized capacity building.

Wood Processing Technology and Wooden Tubs and Barrels in Japan: A case study of wood use as culture

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Introduction

Almost all potential vegetation of Japanese archipelago is forest, and wood has been the most familiar resource for those living in Japan. Although fuel and construction materials have been the most important uses of wood, tools used in daily life and production activities are considered to be the most important uses of wood with which many people have direct contact. In this presentation, we focus on the wooden tubs and barrels (“桶 *oke*” , “樽 *taru*” in Japanese respectively) that once deeply widespread daily life and industry in Japan. The aims of this presentation are to summarize the history of their establishment, development, and decline based on previous research, and discuss the characteristics of wood processing technology and Japan's forest resources that lie behind their history.

Definition and origin of wooden tub and barrels

The oldest type of wooden container for liquids and fluids is the hollowed woodcraft, which can be made simply by hollowing out a log with a blade. The next oldest type is the bentwood, which can be made by rolling thin sheets of wood. The first Japanese wood tubs were bentwood, but later, combined tubs and barrels were made by binding multiple boards together, and this type of wood containers became widely established. In this presentation, we will limit our discussion to combined ones.

The technique for making combined wood containers is found throughout the world, but it is believed to have been introduced to Japan from mainland China. In Japan, historical records indicate that they began to be made around the 13th century.

Development and decline of wooden tubs and barrels

Wooden containers, such as tubs and barrels and, became widely used in the people's daily lives and industries throughout the medieval and early modern periods, as their sizes and uses diversified significantly.

As an example of the advantages of wooden containers, let us take the sake brewing industry. Since ancient times, sake has been made using ceramic jars. When wooden vats were introduced to sake brewing in early modern times, they enabled larger brewing tanks and dramatically increased production efficiency. Wooden barrels, which were lighter and less prone to breakage than ceramic ones, made possible the wide distribution of sake.

Wooden tubs and barrels could be reused and recycled. For example, when wooden tubs became old, they could be repaired by simply replacing partial boards, keeping maintenance and management costs low.

After modernization, wooden tubs continued to be used as the most versatile containers. Because of their resistance to acid, they were also used even in the newly emerging chemical industry. However, during the rapid economic growth of Japan that began in the 1960s, wooden tubs and barrels rapidly disappeared from daily life and from industry as plastic and metal alternatives took over.

Development of wood reprocessing technology and wood containers

The stone axe is the oldest woodworking technology in Japan. The iron axe is thought to have been used from around AD, and tools derived from it were used not only to cut wood, but also to shave and split it, making it possible to make boards. Although saws began to be used for woodworking after the 7th century, they were only capable of cutting, and ripsaws capable of sawing into boards did not appear until the 15th century. The planer, which was used to plane the surface of wood and precisely adjust the size, is said to have come from mainland China or was made in Japan, but historical records place its first appearance in the 16th century.

To summarize the technical requirements for the creation of tubs and barrels, 1) the boards can be processed, and 2) they must be sealed. The processing of boards was possible even before the widespread use of ripsaws. In fact, even today, the components for tubs and barrels are often obtained by splitting and scraping wood using rustic tools. To ensure a tight seal, a tool called “shojikidai”, like a plane, is used. The construction of the tool is simple, and some believe that it evolved from the installation of a blade on a wooden pedestal.

Relationship with forest resources

Most of the tubs and barrels made in Japan are made of softwoods such as Japanese cedar (*Cryptomeria japonica*), Japanese cypress (*Chamaecyparis obtuse*). In particular, Japanese cedar is the most widely used.

These softwood woods have excellent splittability, which is considered a convenient property for the processing of members using rustic tools. The lightness of these woods, in addition to ease of processing, may have been favorable in terms of logistics.

The natural distribution limited, even for cedar, the most common softwood timber in Japan. Plantations of cedar and other softwoods for the purpose of timber production began around the 15th century, and it is thought that the fostering such forest resources made possible the widespread use of tubs and barrels and tubs. In addition, the recycling and reuse of tubs and barrels may have contributed to the sustainability of forest resources by reducing the waste of resources..

Conclusion

Wooden tubs and barrels are believed to have come from outside Japan, but developed uniquely in Japan. Natural and human conditions are thought to have played a deep role in this unique development. The presence of cedar and other coniferous trees gave rise to a unique manufacturing technology and usage culture. Plantation technology and recycling and reuse ensured that the barrels and casks could be used for a long period of time. In understanding the relationship between nature and culture through the use of wood, wooden tubs and barrels are a subject that can provide various useful insights.

Current Status of Forest Healing in Korea

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1. Introduction

In recent decades, growing awareness of the therapeutic benefits of natural environments has contributed to the development of nature-based interventions worldwide. Among these, forest healing has gained particular prominence in South Korea, where national policy has embraced forest-based health and wellness programs as a vital component of public health and welfare services. Forest healing refers to structured activities within forest environments that aim to promote physical, psychological, and emotional well-being through contact with natural elements such as phytoncides, temperature, light, sounds, and landscape. This material explores the current status of forest healing in Korea, its theoretical foundations, practical applications, and future potential as an integrated and inclusive healthcare model.

2. Theoretical Background

Forest healing is grounded in several interdisciplinary theories and scientific findings. Biophilia theory, proposed by E.O. Wilson, suggests that humans possess an innate tendency to seek connection with nature, which supports the therapeutic rationale of forest environments. Attention Restoration Theory (Kaplan & Kaplan) emphasizes that natural settings help restore cognitive capacity, particularly directed attention fatigued by urban life. Additionally, Stress Reduction Theory (Ulrich) posits that exposure to natural scenes reduces physiological stress and improves emotional states.

Empirical studies in Korea support these theoretical perspectives. Data show measurable physiological benefits of forest exposure, including reductions in cortisol levels (a stress hormone), increases in alpha brainwave activity associated with relaxation, improved immune function via enhanced natural killer (NK) cell activity, and elevated antioxidant levels. These outcomes substantiate the physical and mental health-promoting potential of forest healing practices.

3. Practical Cases of Forest Healing in Korea

South Korea's forest healing programs are nationally organized and supported by the Korea Forest Service. Since the legal designation of "Healing Forests" in 2010, more than 30 officially designated forest healing centers have been established across the country, offering accessible facilities for all age groups and physical abilities. For example:

- **Prenatal Forest Programs:** Programs targeting pregnant women have shown a 12.7% reduction in stress and a 4% increase in fetal attachment.
- **Child & Adolescent Programs:** Programs enhance learning ability, emotional stability, and social skills.
- **Elderly Programs:** Forest activities significantly improve cognitive function, memory retention, and reduce depression in older adults.

Complementary healing services have also expanded into **marine healing**, **garden healing**, and **care farming**. Each utilizes environmental or agricultural elements as healing resources.

Marine healing uses seawater, sea breeze, and marine organisms. Garden healing, particularly for dementia patients, has shown up to a 67% reduction in depression and 35% improvement in memory decline. Care farming involves targeted healing for vulnerable populations—such as people with disabilities, addiction recovery patients, and youth at risk—through agricultural activities.

Korea is also pioneering **IoT-based smart forest welfare facilities**, where environmental and biometric data are collected to personalize forest healing programs. These digital infrastructures enable real-time health monitoring, increased accessibility, and data-driven service innovation.

4. Implications and Future Directions

Forest healing in Korea represents a successful integration of health, environment, and technology. Its inclusive design ensures access across demographics, and its expanding scope into urban gardens and smart systems reflects adaptability to changing societal needs. Policymakers in other nations may view Korea's forest healing model as a scalable, sustainable response to modern public health challenges, particularly those related to aging populations, chronic disease, and mental health.

Future directions include further scientific validation through longitudinal studies, integration with national healthcare systems, and international collaboration. By continuing to refine and share its model, Korea has the opportunity to become a global leader in nature-based healing services.

Keywords: Forest healing, nature-based intervention, smart forest welfare

Forest Culture Science in Sri Lanka–Indigenous Knowledge, Rituals, and Traditional Beliefs

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Abstract

Sri Lanka's forests are deeply intertwined with the country's cultural, spiritual, and indigenous heritage. The concept of Forest Culture Science explores the intersection of ecological systems and human traditions, demonstrating how indigenous knowledge, rituals, and traditional beliefs have played a vital role in forest conservation for centuries. Indigenous communities have long developed sustainable forest management practices, while sacred groves and tree worship in Buddhist and Hindu traditions reinforce conservation ethics and environmental stewardship.

Seasonal rituals associated with forests, the symbolism of trees in folklore, and spiritual beliefs influence societal attitudes toward forest protection. Mythological narratives and spiritual folklore reflect cultural frameworks that discourage deforestation and habitat destruction, while customary taboos against tree cutting and forest degradation highlight the role of traditional practices in maintaining ecological balance. These practices emphasize the intrinsic connection between cultural traditions and biodiversity conservation.

Despite this rich cultural heritage, modern challenges such as deforestation, climate change, and the erosion of traditional ecological knowledge threaten the sustainability of Sri Lanka's forest culture. Addressing these challenges requires integrating indigenous wisdom with scientific conservation strategies and developing policy frameworks that incorporate traditional ecological knowledge into sustainable forest management.

Recognizing the ecological significance of folklore, rituals, and indigenous knowledge provides valuable insights for strengthening biodiversity conservation efforts. Bridging cultural traditions with modern conservation approaches enhances ecological resilience and fosters long-term environmental stewardship.

Use of stable isotopes to understand natural and anthropogenic factors controlling forests in Japan

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Abstract

Anthropogenic and natural phenomena are closely related to forest growth. Forest response can be evaluated using different instruments or continues measuring equipment. One of those techniques is stable isotopes, namely carbon (¹²C, ¹³C), oxygen (¹⁶O, ¹⁸O) and nitrogen (¹⁴N, ¹⁵N) which can be used to understand the physiological response of trees to any disturbance or any environmental change. It is a useful tool to trace the movement of water and nutrients in forest ecosystems and it is able to link human activity as well as natural factors controlling forest ecosystems. In this study we present results of stable isotopes application on different forest ecosystems in Japan. These study cases range from the effect of invasive species on local tree species nutrient cycle; the use of different water sources (snow, rain, soil water, etc); influence of tourists on bird colonies settlements on coastal forests, the effect of the Mega Tsunami of 2011 on coastal forests and finally, the health conditions that experienced severe bark beetle attack. Stable isotopes were analyzed in soil, roots, stems and leaves as well as on analysis on tree-rings, depending on the objective of each study, in order to understand historical records. The results show that stable isotopes are able to link forests with their surrounding environments and the temporal changes associated with the effects on short- or long-term environmental changes.

Faith, Forest, and Monks: Cultural Innovation and the Forest Ordination Ritual as a Model for Ecological Landscape management

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Abstract

The forest ordination ritual in Northern Thailand exemplifies a culturally grounded response to environmental degradation. Rooted in the concept of Invention of Tradition, the ritual is not an ancient, unchanging custom but a recent cultural innovation. Initiated by Buddhist monks and local communities, the practice involves symbolically ordaining trees by wrapping them in saffron robes and performing religious rites. This act transforms forests into sacred spaces, reinforcing conservation through spiritual reverence and social norms rather than formal regulation.

The ritual integrates local beliefs, Buddhist teachings, and modern environmental concerns into a coherent framework of moral ecology. Monks play a pivotal role as moral authorities and “spiritual landscape architects,” shaping community perceptions of nature as sacred and inviolable. Forest ordination serves as an informal, community-based conservation mechanism that enhances ecological protection through shared values and symbolic meaning.

For ecological landscape management, this case offers an alternative model that emphasizes the role of culture and spirituality in shaping sustainable land-use practices. By embedding environmental ethics in ritual and belief, the forest becomes a living sanctuary protected not by law alone, but by faith and community commitment. This approach underscores the potential of integrating cultural innovation into contemporary conservation and design strategies.

Studies on Medicinal Food Plants in Traditional Forest Culture

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Abstract

Human beings have established close relationship with forests, and formed forest culture worldwide. People living in the forest areas depend on forest products and cultures including medicinal and edible plants for surviving and development. Medicinal food plants or edible plants with health-promoting functions have been gathered and used for generations under traditional forest culture or knowledge in many areas of China. However, they have been ignored or less studied. Multiple approaches including ethnobotany, forestry, food chemistry, metabolomics and pharmacology have been adopted in the present study. The results showed that more than 1500 species of medicinal food plants associated with traditional forest culture or knowledge had been collected and consumed for a long history in China. Three cases, *Acer truncatum*, *Taxicodendron vernicifluum*, and *Bauhinia variegata* var. *candida*, all arbor species with edible parts, revealed that there are rich nutrient compositions and metabolites in medicinal food plants. Their chemicals exhibited various biological activities such as anti-oxidant, anti-inflammation, and anti-tumor. It is suggested that medicinal food plants associated with traditional forest culture or knowledge should be investigated, so as to be used for health promotion, conservation of forest cultures and sustainable development of local communities.

Key Words: plant culture; *Acer truncatum*; *Taxicodendron vernicifluum*; *Bauhinia variegata* var. *candida*; health-promoting; rural revitalization

Landscape construction in Bamboo Painting in Traditional Chinese painting-A case study of Dongzhuang in Ming Dynasty

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Abstract

Chinese bamboo painting has a long history and is renowned worldwide. Prehistoric flowers and birds have already begun to sprout, going through the Yangshao Culture period, the Northern and Southern Dynasties period, the Tang Dynasty, the Five Dynasties, the Northern Song Dynasty, the Yuan Dynasty, the Ming Dynasty, the Qing Dynasty, etc. Specifically, it can be divided into the embryonic period before the Tang Dynasty, the development period of the Tang Dynasty, the maturity period of the Five Dynasties, the peak period of the Song Dynasty, the prosperous continuation period of the Yuan, Ming, and Qing dynasties, and the period of inheriting the past and opening up the future in modern times. Based on the rich cultural connotations of bamboo, the theme of bamboo painting has been a common theme in Chinese poetry and literati painting since ancient times. It inherits traditional Chinese culture and contains aesthetic value. Taking the Dongzhuang painting of the Ming Dynasty as an example, a total of 21 garden landscapes are depicted, Among them, bamboo is an important element (mainly reflected in the architectural environment of "Shuo Xiu An", "Xu Gu Tang", "Geng Xi Xuan", "Zhi Le Ting", and the bamboo forest stream of "Xi Xi", "Zhe Gui Qiao", "Zhu Tian", "Qu Chi", and "Nan Gang"), integrated into natural landscapes, perfectly presenting the charm of Dongzhuang. Mainly based on the lineage of literati bamboo paintings, this article analyzes how the brush and ink formula of "using bamboo to symbolize virtue" constructs a spiritual landscape that is both livable and touristic through virtual and real composition, inscriptions and seals. It elucidates the cultural mapping of its "virtue view" to Jiangnan garden window scenery and courtyard bamboo and stone, and demonstrates the enlightening value of traditional artistic symbols for contemporary landscape aesthetics and ecological awareness cultivation.



Figure 1 Dongzhuang Picture 21 (excerpt)

FOREST CULTURE IN INDONESIA

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Forest culture is an important aspect in Indonesia

Indonesia is rich in biodiversity. with many people living around the forest, Indonesia and its rural livelihoods develop traditional knowledge through a relationship between humans and forests. Forests in Indonesia have been managed and used for centuries through *adat* (customary) systems. These systems often predate formal state forestry policies and are based on communal rights, spiritual beliefs, and practical ecological knowledge. Although colonial and post-colonial forestry practices often ignored or marginalized these systems, they have endured over time and are now increasingly acknowledged through social forestry initiatives. Constitutional Court Decree Number 35/PUU-X/2012 stated that customary forests are no longer a state forest area, but are also included in the forest areas encumbered with rights, such as community forests (Rauf, 2020). This decision raises hopes and excitement regarding recognizing customary law communities and their traditional rights, as it strengthens indigenous autonomy to manage and protect their forests based on traditional knowledge and customs (Jayantiari, 2024).

Some examples of forest culture in Indonesia

Kaombo: *Kaombo* is practiced by the people in South Buton. Kaombo preservation forests refer to a local wisdom-based system for protecting and preserving forests, particularly among the Rongi indigenous people in South Buton, Indonesia. This system emphasizes the collective ownership and management of forests, respecting traditional rules and practices, and promoting a deep connection with nature. Among the people of Buton, *Kaombo* refers to a set of binding and compelling values intended to prevent individuals from engaging in irresponsible actions (Tenri et al., 2019). *Kaombo* aims to let natural resources regenerate before the results are obtained again. The temporary enclosure could take up months or years until it is finally reopened. It was known that this culture encourages collective responsibility in environmental care.

Bukit Samabue Customary Forest in Kalimantan. The Bukit Samabue Customary Forest, situated in Landak Regency, West Kalimantan, serves as a compelling example of community-based forest conservation. Recognizing the mounting challenges posed to it, the local community has demonstrated a proactive approach to safeguarding its forest area. This commitment has been manifested through the adoption of collective action measures, encompassing the utilization of traditional knowledge systems, such as agroforestry practices. The utilization of forest resources is meticulously managed and prioritised for the benefit of the community, thereby ensuring sustainability and equitable access. To uphold these values, violations of customary law—referred to as *Timanggung*—are subject to financial penalties amounting to approximately 4 million rupiahs, in addition to compensation for any resulting damage (Zainal & Edo, 2022)

Parak: Agroforestry System in West Sumatera. *Parak* functions as a transitional

ecosystem situated between forested areas and agricultural land, embodying characteristics of both ecological and cultivated landscapes. The region is distinguished by its high biodiversity and the variety of commodities it produces, including durian (*Durio zibethinus*), rubber (*Hevea brasiliensis*), and cinnamon (*Cinnamomum verum*). Other examples of relevant plant species are surian (*Toona sureni*), bayur (*Pterospermum javanicum*), clove (*Syzygium aromaticum*), avocado (*Persea americana*), cacao (*Theobroma cacao*), teak (*Tectona grandis*), and pine (*Pinus* spp.). The integration of these economically valuable species within the same land unit reflects a deliberate form of agroforestry, in which agricultural practices are closely aligned with forest ecology. Consequently, *parak* is conceptualised as a sustainable land-use system that supports both livelihoods and biodiversity conservation (Kardiman & Putri, 2023).

Persilan: In Central Java, agroforestry continues to be widely implemented as a strategic approach to restore degraded landscapes while simultaneously enhancing food security. One notable model is *Persilan*, an agroforestry system that emerged from communities living along the border between Central and East Java. *Persilan* refers to a system where communities are granted access to land managed by Perum Perhutani within forest areas for cultivating seasonal crops. This practice is a form of community-based forest management where local communities are allowed to cultivate specific plots of land, typically in the forest, for their own use. The communities are responsible for managing the land and protecting the tree seedlings planted there, often as compensation for land acquisition.

Forest Culture and Natural Forest for Ecotourism Purposes

According to Article 5 of the Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 17 of 2020 concerning Customary Forests and Forest Rights, customary law communities are granted the right to manage and utilize forest areas. These rights include the use of environmental services, the harvesting of timber and non-timber forest products, and the implementation of other forest management activities, all by prevailing customary laws and regulations (Anwar et al., 2024). One example of environmental service utilization by customary law communities is the development of tourism activities based on the concept of nature-based tourism or ecotourism. Ecotourism is increasingly recognised as an effective tourism management strategy that balances environmental conservation with the socio-economic development of customary communities (Moore, 2004; Hitchner et al., 2009; Perera & Vlosky, 2017). The involvement of customary law communities in ecotourism offers several key advantages. These include the sustainable management of forest ecosystems, the equitable utilization of forest resources, and preventing conflicts between customary communities and other stakeholders operating in or near customary areas. However, ecotourism is not without its challenges. When ecotourism planning involves customary law communities, it is essential to identify shared values and aspirations to ensure that development aligns with their cultural context, priorities, and living conditions. As such, ecotourism initiatives should be tailored to reflect the unique circumstances of customary law communities (Alfitri et al., 2022). Some of the famous forest cultures regarding natural forest ecotourism is Monkey Forest in Ubud, Bali. Every month, around 10,000–15,000 visitors come to Ubud Monkey Forest. The Ubud Monkey Forest has 186 species of plants and trees in 12.5 hectares of forest. The Ubud Monkey Forest has 3 temples, namely Dalem Agung Padangtegal Temple, Holy Spring Temple, and Prajapati Temple. The forest is owned by the Padangtegal community and is managed by Mandala Suci

Wenara Wana Management. The purpose of the management is to preserve the sacred place and promote the Ubud Monkey Forest as an international tourist destination (Mandala Wisata Wenara Wana, 2009). Bugis Culture: In the Bugis community, forests (ale') play a crucial role in cultural rituals. The Baringeng community in Soppeng Regency holds a harvest thanksgiving ceremony with forest-related rituals that symbolize the harmony between humans and nature. The unique aspects of the Baringeng community's harvest thanksgiving ceremony, focusing on the rituals of mappatettong alé, manno salo, and mattu'bang alé. The symbolic meanings of these rituals, which honor the forest as nyawana lineo (the essence of nature) and water for its purifying properties, and current agricultural conditions and community responses (Mansyur et al., 2024).

Forest Culture and Silviculture, Land Rehabilitation, and Tree Health

In the context of silviculture, land rehabilitation, tree health, and broader sustainable forest management practices, indigenous knowledge serves not only as a means to maintain ecological sustainability but also as a foundation for reinforcing ecological harmony and preserving the unique characteristics of local natural resources (Alfitri et al., 2022). Rooted in long-standing traditional practices and ecological understanding, forest culture is crucial in shaping silvicultural strategies, land rehabilitation efforts, and tree health management. Indigenous and local communities often maintain biodiversity through small-scale, diverse agricultural practices and seed exchange systems that support genetic resilience (Pautasso et al., 2013; Bellon et al., 2019). These cultural approaches not only enhance the effectiveness of technical interventions but also ensure that forest management aligns with the social and ecological context of the landscape. One aspect of this culture is intensive silviculture on Dipterocarpaceae, which focuses on managing forests dominated by this family of trees to enhance their productivity, resilience, and overall health. This involves various interventions like stand thinning, fertilization, and controlled burning to support Dipterocarp regeneration and growth.

Forest Culture in Wanagama Edu-Forest

Wanagama Forest is an educational forest managed by the Faculty of Forestry, Universitas Gadjah Mada (UGM), under the Decree of the Minister of Environment and Forestry Number 493/Menlhk-Setjen/2015. Covering an area of approximately 622.25 hectares, Wanagama is divided into eight compartments stretching from west to east, namely compartments 5, 6, 7, 13, 14, 16, 17, and 18. Administratively, the forest is located in the Playen and Patuk sub-districts of Gunungkidul Regency. In the past, this area was known as a “*batu bertanah*” (rocky and barren land) due to its extremely dry conditions. The successful reforestation of Wanagama has become one of the notable examples of successful forest rehabilitation efforts in Java.

According to Nai'em et al. (2020), current management efforts in Wanagama Forest are directed toward the development of environmental education-based tourism. To support this vision, Wanagama has been divided into three designated Eco Edu Tourism zones. The first, known as the Education Zone, is located in compartments 5 and 6, where visitors can learn about ecosystem restoration, ranging from barren land conditions in compartment 6 to near-climax ecosystem stages in compartment 5. This area also serves as a site for the implementation of tree breeding theories. The second zone, the Agroforestry Zone, spans Compartments 7, 13, and 14. Originally used for genetic trials, these compartments are now repurposed to support agroforestry practices, food security,

and community welfare, as many local forest farmers (*pesanggem*) operate in the area. While the forest was once managed primarily for timber, its current focus has shifted toward non-timber forest products such as honey from *Acacia mangium* and essential oils from *Eucalyptus* sp. The third zone, the Ecotourism Zone, includes Compartments 16, 17, and 18, which feature a restaurant serving Wanagama's signature dishes (venison or deer meat), a bird dome, and a nursery. Recently, during the COVID-19 pandemic, a "healing forest" program has been initiated across all zones. These initiatives not only provide alternative income sources for surrounding communities but also aim to foster collective participation in forest management efforts.

Since the forest culture influences how humans perceive and interact with forests, it impacts forest management practices and sustainable development, thus, the discussion on forest culture perspective in the future to support sustainable forests in the world under the global climate change era has become essential.

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Yunnan Flower-eating Culture and Sustainable Development of NTFPs

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Abstract

Non-timber forest products (NTFPs) can support community livelihoods and have the potential to improve communities, contributing to sustainable development. Many edible flowers (EFs) in Yunnan, as NTFPs, are precious food and medicine resources with the potential to develop new resources and enhance human well-being but traditional importance frequently goes unnoticed or is overlooked. This study employed ethnobotanical field survey and quantitative analysis, supplemented by literature research, to investigate, collate, and catalogue the EFs utilized by various ethnic groups in Yunnan. A total of 425 taxa (including species and varieties) of EFs from 84 families and 231 genera are documented. As a special category of NTFPs, many EFs are of local cultural importance. Locals have profound knowledge on the collection, utilization and management of these EFs. The collection, documentation and preservation of EFs and related traditional knowledge will contribute to the conservation of forest resources and biocultural diversity, as well as the optimization and innovation of the food system, and the sustainable development of the economy and society.

Keywords: ethnobotany; forest resources; flower-eating culture; species diversity of edible plants; traditional knowledge; biocultural diversity

The dynamics of unconventional food plant consumption in rural Indonesia: Drivers and links to perceived well-being

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Introduction

Traditional food systems are essential for sustaining cultural identity and food and nutritional resilience, especially in rural and forest areas. Central to these systems are local plants, including the unconventional food plants (UFPs): non-commercialized, locally sourced edible species valued for their affordability, cultural significance, and adaptability to local ecosystems. Despite their importance, UFPs are increasingly marginalized by globalization, urbanization, and shifting dietary preferences, exacerbating the burdens of malnutrition and biodiversity loss in regions like rural Indonesia. While prior research underscores UFPs' potential to enhance dietary diversity and resilience, gaps persist in understanding the drivers of food choices involving UFPs and their impact on holistic health perceptions. Through case studies in three distinct islands in Indonesia (Sumatera, Java, and Sumbawa), we address these gaps through mixed-methods research in rural West Java, examining 1) Drivers of UFP consumption and 2) Correlations between UFP consumption and well-being outcomes, assessed using health-related quality of life (HRQoL) indicators. The findings shed light on how culturally embedded dietary practices mediate holistic health perceptions in resource-limited settings.

Methodology

The study was based on surveys undertaken in three islands in Indonesia: Java Island (2 locations in West Java Province), Sumatera Island (Aceh Province), Sumbawa Island (West Nusa Tenggara (NTB) Province)

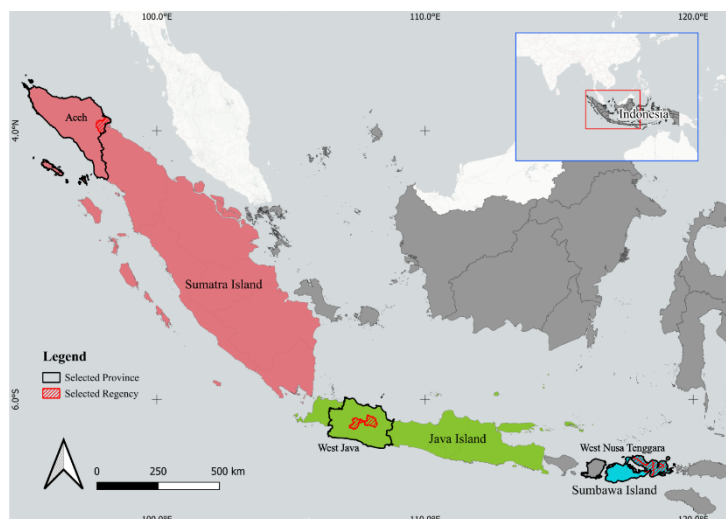


Fig.1. Study locations

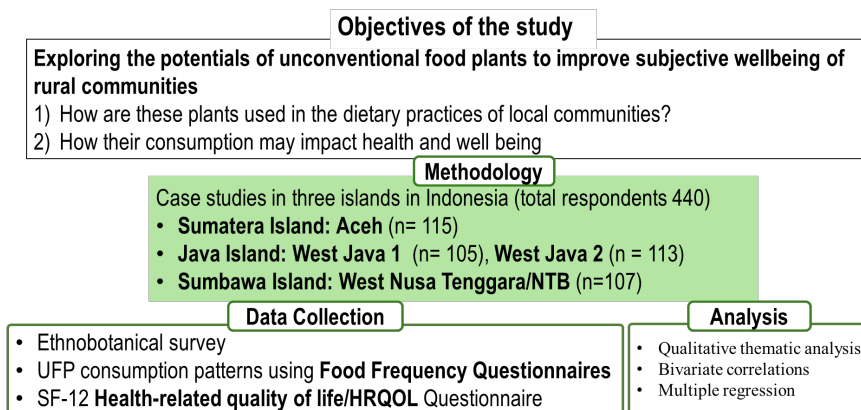


Fig. 2. Study framework

Results and Discussion

UFP consumption patterns

While regional differences in UFP consumption are evident, a striking commonality across all locations is the persistent integration of UFPs into diets. Even in regions with lower reported "high" consumption, the combined rates of moderate and high consumption reveal sustained engagement with UFPs: except for WJ2 (48%), all regions had a majority of respondents consuming UFPs at least moderately (65–71%). This persistence suggests UFPs remain a culturally or nutritionally relevant dietary component in all regions, even amid modernization or ecological challenges.

Drivers of UFP consumption

The analysis of drivers influencing UFP consumption identified reducing food expenses as the most prominent motivator (49 mentions), followed by availability (37 mentions), and nostalgia (36 mentions) (Figure 1). Good taste (27 mentions) and health benefits (15 mentions) emerged as secondary and minor drivers, respectively, while income (2 mentions) had negligible influence. The findings highlight a dominant focus on cost-efficiency and practical accessibility, supplemented by sensory appeal and cultural or sentimental ties, with limited emphasis on health and economic status.

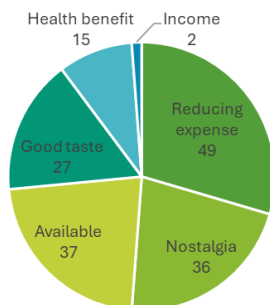


Fig. 1. Drivers of UFP consumption

UFP consumption and self-assessed Health-Related Quality of Life HRQoL

This analysis aimed to examine the impact of UFP consumption on subjective well-being,

measured as HRQoL (Table 1), among rural communities, as well as any indirect effects in cases where such a relationship persists (Table 2).

Bivariate correlation analysis revealed statistically significant correlations between UFP consumption and specific HRQoL indicators, though patterns varied by region and component. In West Java 1, General Health (GH) showed a weak positive correlation with UFP consumption ($r=0.28$). West Java 2 exhibited a strong positive correlation between Social Functioning (SF) and UFP intake ($r=0.71$, a weak positive association with GH ($r=0.19$), and a weak negative association with Physical Functioning (PF) ($r=-0.19$). NTB displayed the most robust relationships: GH had a moderate-to-strong positive correlation ($r=0.60$), while Bodily Pain (BP) ($r=0.37$), Vitality (VT) ($r=0.37$) and Mental Health (MH) ($r=0.57$) also showed significant associations. In Aceh, weak associations were observed for GH ($r=0.21$) and Role of Emotion (RE) ($r=0.21$), and PF ($r=-0.35$). Notably, no significant correlations were found for Role of Physical Functioning (RP) across all regions.

Table 1. Correlation between UFP consumption and self-assessed HRQoL indicators.

SF-12 HRQoL indicators	UFP consumption			
	West Java 1 n=105	West Java 2 n=113	NTB n=107	Aceh n= 115
Physical Component Summary/PCS				
Physical functioning (PF)	-	-0.19*	-	-0.35**
Role of physical functioning (RP)	-	-	-	-
Bodily pain (BP)	-	-	0.37**	-
General health (GH)	0.28*	0.19*	0.60**	0.21*
Mental Component Summary/MCS				
Vitality (VT)	-	-	0.37**	-
Role of emotion (RE)	-	-	-	0.21*
Social functioning (SF)	-	0.71**	-	-
Mental health (MH)	-	-	0.57**	-

HRQoL: Health-Related Quality of Life. Correlations are reported using Spearman's Rho (R). Correlations are reported using Pearson's or Spearman's Rho, according to variable distribution. The values represent the correlation coefficients (r) between UFP consumption and HRQoL indicators. *, and ** indicate significance at 0.05 and 0.01. *Strong correlation: $0.7 < r < 0.9$; moderate correlation $0.5 < r < 0.7$; weak correlation: $r < 0.5$*

The multiple regression analysis revealed region-specific associations between UFP consumption and SF-12 HRQoL dimensions, controlling for confounding factors such as socio-demographic factors (gender, age, illness, education, source of income, expenditure, family size), dietary habits and agricultural practices.

In West Java 1, UFP intake was a significant predictor of GH ($\beta=0.28$, $p<0.05$), but no other dimensions showed significant links. Conversely, West Java 2 highlighted SF as strongly associated with UFP consumption ($\beta=0.71$, $p<0.01$), alongside vegetable/fruit intake, suggesting social or cultural drivers of UFP use.

In West Nusa Tenggara/NTB, UFP intake emerged as a robust predictor across multiple domains: it was linked to reduced Bodily Pain (BP) ($\beta=-0.35$, $p<0.01$), improved GH ($\beta=0.60$, $p<0.01$), and enhanced Mental Health (MH) ($\beta=0.57$, $p<0.01$), underscoring UFPs' integral role in both physical and mental well-being.

Aceh showed a significant association between UFP intake and Physical Functioning (PF) ($\beta=-0.35$, $p<0.01$), though this relationship was moderated by age.

Notably, UFP consumption lost significance for GH and Role of Emotion (RE) in Aceh and for Physical Functioning (PF) and GH in West Java 2, potentially reflecting contextual factors like urbanization or shifting dietary practices.

These findings emphasize that UFPs' influence on HRQoL is highly context-dependent, with NTB demonstrating the strongest and most consistent associations (BP, GH, MH), likely due to stronger cultural integration of UFPs, while other regions exhibit selective associations tied to age or social practices. NTB had the highest 'high consumption' rate (61%) compared to other regions. This aligns with the idea of deeper cultural or environmental reliance on UFPs. Moreover, NTB's semi-arid environment may necessitate greater dependence on drought-resistant UFPs for nutrition, reinforcing their cultural and health significance. These insights highlight the need for regionally tailored interventions to leverage UFPs for health resilience.

Conclusion

This study underscores the critical role of UFPs as culturally embedded elements of dietary resilience, offering novel insights into how traditional diets intersect with well-being. The findings reveal that UFPs are more than food—they are dynamic components of cultural identity and practical adaptation, strengthening perception of holistic well-being. However, their influence on HRQoL is regionally and domain-specific: In Nusa Tenggara Barat (NTB), UFPs are integral to both physical and mental well-being, reflecting their deep cultural and ecological embeddedness. In Aceh and West Java, associations are more selective, tied to age-related needs (e.g., physical functioning in Aceh) or social practices (e.g., communal cohesion in West Java).

These disparities highlight the need for regionally tailored interventions that prioritize cultural resonance alongside nutritional adequacy. For regions grappling with malnutrition and biodiversity loss, strategies must harmonize dietary resilience with cultural continuity, leveraging traditional food systems not only for nutrition but also for their unique role in sustaining holistic health. By adapting interventions to local socio-ecological contexts—such as NTB's reliance on drought-resistant UFPs or West Java's social food practices—policymakers can design scalable, equitable models for sustainable nutrition globally.

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The Role of Plants in the Forest Culture of the Li Ethnic Group's Traditional Settlements

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Abstract

The Li ethnic group, residing in the tropical rainforests of Hainan, has cultivated a profound relationship with the plants that thrive in their environment. This bond between culture and nature has shaped the daily life, traditions, and spiritual beliefs of the Hainan Li people. Plants play an essential role not only in the sustenance of the community but also in their cultural identity, influencing practices such as food preparation, medicine, construction, and rituals. This paper employs ethnobotanical methods, combining literature review and field research, to examine how the Hainan Li people have integrated plants into their forest-based culture. By exploring the unique interactions between the Hainan Li people and their surrounding environment, this study highlights the cultural significance of plants in shaping the identity and practices of the Hainan Li people. Furthermore, it emphasizes the importance of preserving both plant biodiversity and the traditional cultural heritage of the Li ethnic group, offering insights into sustainable practices for future conservation efforts.

Key words: The Li Ethnic Group, Plant, Culture, Protection

A New Framework for Coordinated Community Development in Hainan Tropical Rainforest National Park, China

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Abstract

Sustainable community development is a prerequisite for national parks' coordinated ecological and socio-economic development. This study analyzes the sustainable development challenges communities face in national parks, including the marginalization of indigenous peoples, the passive role of stakeholders, and insufficient protection of community interests. Using a grounded theory approach and a mixed research method (semi-structured interviews and questionnaires), the development constraints of community residents in Hainan Tropical Rainforest National Park in China were systematically studied. The research framework identified five core dimensions (economic, social, ecological, institutional, and cultural) and eight major categories that characterize the community's development dilemma. The analysis revealed systemic problems, including differences in income distribution, limited access to resources, gaps in policy implementation, and ambiguous stakeholder roles. A new framework for coordinated development of national park communities was constructed through multidimensional analysis, and coordinated development strategies were proposed from the five dimensions of economy, society, ecology, institution, and culture. These findings contribute to the theoretical underpinnings of national park governance in China and offer a transferable methodological system for managing nature reserves and national parks worldwide, particularly in achieving a balance between ecological protection and community development needs.

From the secret mountain forest to the public scenic spot: a brief introduction to the cultural burst and the evolution of Lingnan Municipal Landscape

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Introduction of Lingnan Municipal Landscape

The concept of “Municipal Landscape” is initiated by Prof. Guanping Liu, the Recipient of the Lifetime Achievement Award from the Chinese Society of Landscape Architecture. This concept is further elaborated in Dr. Guangzhen Lin's thesis, which defines it as the space developed through historically evolved methods and utilized as multiple urban-supporting functions, leveraging the natural landscapes in the suburban areas of Lingnan's prefectural cities and supported by urban water management systems.

Lingnan is a region in southern China, including the present Chinese subdivisions of Guangdong, Guangxi, Hainan, Hong Kong, and Macau. In this region, over 2000 years of development progress of cities has represented the synergy of the urban areas and their surrounding landscapes. Lingnan is in the subtropical zone, characterized by a hot and humid summer with copious rainfall and frequent typhoons, causing tough drought and flood events for human settlements.

The study of Lingnan Municipal Landscape reveals human-nature harmony deeply rooted in China's culture. As reflected in the concept of “shan (mountain) shui (water) city”, the natural environment context, particularly mountains and waters, is significant for sustainability and resilience.

Case studies: Huizhou Westlake and Guilin Yin Mountain

This paper conducts a diachronic analysis of two typical cases of Lingnan Municipal Landscape, Huizhou West Lake and Guilin Yin Mountain, through a historical literature review. The historical evolution of these landscapes implies that the evolution of Lingnan Municipal Landscape is closely related to urban development. Furthermore, it extracts four behavioral patterns of landscaping: landscape discovery, landscape development (or space-making), landscape recreation (or appreciation), and landscape celebration (or promotion). Through these four patterns, the once secret forest of Guilin Yin Mountain has been discovered, developed, appreciated, and promoted as a renowned public scenic spot.

Different Cultural Values in Western and Chinese Historic Landscapes

The appreciation of natural landscapes, encompassing mountains and waters, emerged as a cultural phenomenon in China over a thousand years earlier than in the West. Studies suggest that China developed the world's first comprehensive aesthetic conception of landscape, which later spread to other East Asian regions and was richly manifested in literature, painting, and garden art. In contrast, systematic aesthetic awareness of landscape in Western societies only crystallized during the late-18th-century Romantic era, amidst urbanization and early landscape destruction brought about by the Industrial Revolution.

Forest Education in Japan: Practices and Reflections

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Abstract

With growing global awareness of environmental issues, the importance of education for environmental conservation is being increasingly recognized. Numerous studies have explored a wide range of topics, including environmental perception and attitudes, the gap between environmental awareness and behavior, environmental literacy, theories and practices of environmental education, as well as environmental justice and environmental ethics.

Forests play a vital role not only in ecological and environmental functions but also in health, recreation, and cultural aspects, the full realization of which is deeply connected to human well-being. In this context, forest education has attracted attention as a significant means of conveying the value of forests, preserving forest culture, and contributing to building a sustainable society.

This report provides an overview of the historical development and recent trends in forest education in China and Japan, with a particular focus on Japan. It highlights the characteristics of diverse educational programs from both specialized and public perspectives. Additionally, specific practical examples and local initiatives are introduced, including the Forest Self-Care Program at the University of Tokyo Forests, the Children's Tree Doctor program, the Mori no Youchien (Forest Kindergarten) in Chizu Town, Tottori Prefecture, and Iinan Forest Therapy in Iinan Town, Shimane Prefecture, to explore current approaches and future possibilities for forest education.

An ecological study of boat-houses and traditional settlements of Li people in Hainan

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Abstract

With the globalization of commodity economy and the acceleration of productivity modernization, the traditional settlements of Li people are faced with the double pressure of low production efficiency and rural population migration to cities. By revealing the interaction between the social ecosystem of the traditional settlement and the natural ecosystem of the tropical rainforest, and scientifically and quantitatively demonstrating the correlation between biodiversity and cultural diversity, it is significant for sustainable conservation and management the Hainan tropical rainforest ecosystem. Furthermore, this research will be helpful for Chinese government to declare the World natural and cultural Heritage project of “Boat house and traditional settlement of Li nationality”.

This study focus on the boat-houses and traditional settlements of the Li people in Hainan Province, which have existed for thousands of years. Using interdisciplinary research methods such as ethnobotany and environmental architecture to analyze the ecological interaction process and mechanism between the boat-houses and traditional settlements by analyzing the plant species, natural environmental conditions and Li culture. Scientific verification of the effectiveness of traditional culture for biodiversity conservation and management and the maintenance mechanism of biodiversity for cultural diversity, screening of traditional knowledge with important modern social value, and providing new ideas for solving the dilemma of current social and economic development and ecological environment deterioration. The main results are as follows:

1. Boat-house plants and traditional knowledge of Li people in Hainan Island

There are two general patterns of boat-house: original boat-house and developed boat-house. The investigation revealed that 26 species (in 13 families), including 13 tree species, 9 bamboo species, 1 herbaceous species, and 3 liana species, are used in traditional boat-house. Different plant parts are used for different purposes.

We systematically sorted out and cataloged the traditional knowledge related to biodiversity in the tropical rainforest used in the production and living process of the traditional Li settlements, involving five major categories: 531 species medicinal plants, 452 species related to traditional skills, 152 species about traditional culture, 40 agricultural genetical species, and 22 species are geographical indication products.

2. Environmental adaptation analysis of boat-house in dry and rainy seasons

The external and internal environment indicators shows the boat-house owns much better expressions (2°C temperature, 5% humidity, 3°C building surface radiation temperature lower at average level) than morden brick house in natural conditons. The results verified the advantages of boat-house, including heat insulation, moistureproof. In dry seasons, this advantages play a more prominent role compared with the rainy season.

3. Green and low-carbon ecological basis of traditional Li settlements

The traditional Li settlement were based on the boat-houses as its basic units. This research shows that the whole system was running under a green and low-carbon cycle. Both the internal and external cultures influenced the pattern and evolution of the traditional Li settlements. Mapped the trend of the spatial and temporal pattern of the existing traditional settlements of Li

people in the south-central mountainous area of Hainan Island, the values of harmonious coexistence between human and nature of the traditional settlements are scientifically evaluated.

Keywords: boat-house, tropical rainforest, traditional settlements, adaptation, sustainable development

The Collision of Tropical Rainforest and Li Culture: Innovative Exploration of National Park Community Co-construction Based on the "Harmonious and Beautiful Mountains and Sea" University-local Collaborative Model

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Abstract

In order to more effectively utilize the regional culture generated by the long-term interaction between human activities and forest resources and environment to promote regional sustainable development, the "Harmonious and Beautiful Mountains and Seas" school-land co-construction model links the government, universities, enterprises, and villagers to build a collaborative governance system with the participation of multiple subjects, tap the traditional cultural resources of the Li people, empower rural revitalization with culture, and promote the harmonious development of people and land.

As a Li nationality settlement in Qiongzong area, Hejiu Village relies on forest resources for development and constantly shows the charm of the integration of Li nationality culture and tropical rainforest. The "Hainan Li Long Table Banquet" (Figure 1) is a concentrated embodiment of the forest culture and food traditions of the Li nationality. It is not only a feast of food, but also a three-dimensional display of forest culture: from food acquisition to spiritual beliefs, from practical skills to artistic expression, it fully demonstrates the ecological philosophy of the Li nationality's "forest-people-culture" coexistence and prosperity. As a traditional building with regional characteristics, Hainan Bamboo House contains profound historical and cultural significance. It originates from the wise adaptation of the Li people to Hainan's tropical climate. It uses the local abundant bamboo resources as materials to build a light, ventilated and moisture-proof ecological residence, which embodies the concept of harmonious coexistence between the ancestors and nature. It is not only an important form of residence for the Li people, but also a concentrated embodiment of Hainan's traditional folk handicrafts, showing a unique architectural aesthetics and national culture.



Figure 1 "Hainan Li Nationality Song and Dance Long Table Banquet" event

Practice has proved that the Li culture is deeply rooted in the forest ecosystem and constitutes a unique forest cultural system. Whether it is the food philosophy displayed by the long table banquet or the ecological architectural wisdom embodied in the bamboo house, they all originate from the life practice of long-term symbiotic interaction between people and forests. Through the systematic excavation and revitalization of the Li forest culture, not only the cultural connotation of rural revitalization is enhanced, but also the deep integration of ecological protection and regional sustainable development is promoted, showing a beautiful picture of the symbiosis between man and nature.

Fengshui woods culture in Southern China

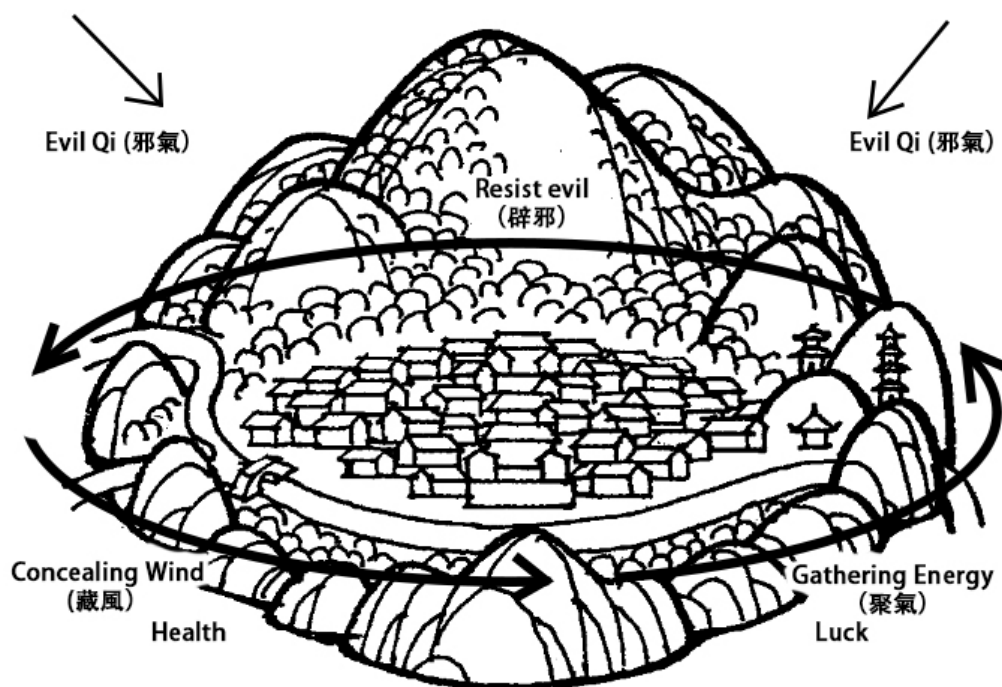
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Abstract

In southern China, Fengshui Wood is a green buffer nearby traditional villages which deliberately preserved or cultivated by the builder of the village. By conducting a literature review on the Fengshui Woods in southern China region, this study illustrates the context, the cultural meaning, the conventional layout and the classification list of common tree species. The ecological role of Feng shui forests, as well as the traditional culture and religious belief system behind them, are explained from the perspective of modern science. The demonstration is helpful to enhance the world's recognition of the value of Fengshui Woods in southern China and provide theoretical references and guidance for the preservation in modern time.



Photos



Chairperson: ISHIBASHI Seiji



Prof. Liang Huaiyue & Prof. Zhang Hui



Keynote speech: LI Liang



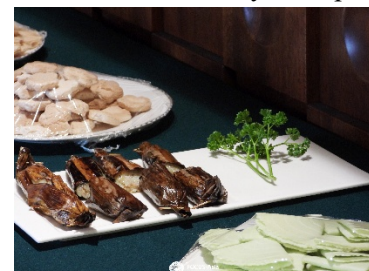
Keynote speech: SAITO Haruo



Keynote speech: KIM Soyeon



Keynote speech: Thilak CHANDRATILAKE



Tea break



Keynote speech: Prof. Larry LOPEZ



Keynote speech: Warong WONGLA NGKA



Keynote speech: Prof. LONG Chunlin



Dr. HUANG Biao

Prof. Sri RAHAYU



Question & Answer Session



Second day presentation session



Round table meeting



Dr. Yell Yell Sally RAHAYU



ZHANG Qing



YANG Jingchun



Dr. LI Shuling



Dr. LI Wan



Group Discussion



Gao Yaqi

Zhuo Hengyi

Wan Xuena



Prof. Zhang Hui



Prof. Liang Huaiyue & Wang Jun & Prof. Sri RAHAYU



Closing Ceremony: Next year's International Conference on Forest Culture is planned to be held in Indonesia.





Morning Tour in Xinglong Tropical Garden



Morning Vegetable Market





Group Photos



FOCUS-Asia Committee 2025:
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