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1. Research Staff

1.1 Nature-Based Tourism Unit

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2. Research Summaries

2.1 Nature-Based Tourism Unit

Mechanism of radio-active cesium fixation in the soil and risk assessment of its movement into plants under different ecosystems. (Dr. Kosaki)

The pollution hazard of radio-active cesium is one of the major environmental problems in the world. The objectives of this study are 1) to understand the mechanism of cesium fixation in the soil with reference to soil formation processes and 2) to construct a model to predict the risk of cesium accumulation in the crops under different ecosystems. The results obtained in this year include 1) establishment of study site in humid tropics (Kota-Kinabaru, Malaysia) for monitoring weathering and fixation processes of cesium-bearing minerals and 2) identification of the factors of cesium fixation in temperate soils, i.e. organic matte in the surface soil and Al-polymers in the subsoil.

Modeling of spatio-temporal movement of nutrient under upland-cropped ecosystem in Sub-Saharan Africa (Drs Kosaki and Ikazaki)

Proper and efficient nutrient management is a key issue for improving food production in Sub-Saharan Africa. The objective of this study is to establish the model of nutrient dynamics with taking spatio-temporal variation of nutrients into consideration. The results from the field experiments this year in Niger, Tanzania, and Cameroon in Africa include 1) collection and monitoring climatic variables (i.e. soil temperature and moisture) and socio-economic information and 2) new findings such as relatively small temporal variation of nutrients associated with microbial biomass and high dependency of nutrients on land use type.

Commodification of rural space in British Columbia, Canada (Dr. Kikuchi)

Rural areas in developed countries have been traditionally considered as the space for agricultural production, but in recent years, they have often been regarded as suitable for other functions, such as leisure and recreation, environmental conservation, culture, and education. Whereas the role of food production has decreased in rural areas, the role of “consumption” in other ways has increased. This situation may be understood as the “commodification of rural space.” We examine how this commodification is proceeding in British Columbia, Canada, and what kinds are present. Our field-work revealed that the four regions of Lower Mainland, Vancouver Island, Okanagan, and Thompson-Cariboo have conspicuous rural commodification. The Lower Mainland region is characterized by diversified rural commodities such as hobby farms, farm product shops, farm tours, pick-your-own farms, horseback riding, and country residence. Wine tourism in the Okanagan region and a slow food movement that concentrate on consuming local food from Vancouver Island are also very important. Ranch tourism and the sales of branded dairy products characterize the commodification in the Thompson-Cariboo region. In short, the commodification of rural space in British Columbia, which is much more advanced and diversified than that of Japan, plays an important role in sustaining the rural economy and society.

The Commodification of Rural Space with the Restructuring of Urban Farming in the Urban Fringe of Tokyo Metropolis (Dr. Kikuchi)

This research focuses on the restructuring of urban farming and describes the local impacts of commodification of rural space, using Sunagawa area in Tachikawa City as an example. Situated in Western Tokyo, Tachikawa City has experienced continuous urban expansion and a rapid decline in the number of farms and farmland area. However, the Sunagawa area has managed to maintain both the number of farms and farmland area, as well as diversified agricultural production, with tree nurseries, vegetable gardens, orchards, horticulture, livestock production etc. Recently, however, farming areas like Sunagawa have been forced to restructure, and have had to deal with the process of commodification of rural space.

Urban farming fulfills not only productive functions, but has been increasingly expected to have a range of various functions, like providing green space and amenities for a better living environment, or evacuation space in the case of disasters. However, there is no change in the fundamental function of small-scale urban agriculture, which provides a diverse range of safe farm products to urban residents. Such small-scale food...
production systems cannot compete with those of cheap farm products of large-scale farms, and these systems cannot satisfy the demand of large-scale urban markets. As a consequence, most products of urban farming are either directly marketed or find their way to local markets. This research focuses on the direct marketing of farm products by farm produce shops. The types of farm produce shops in an area are considered to reflect the degree of farm restructuring and of the commodification of rural space.

There are four jointly-owned and 87 privately-owned farm produce shops in Tachikawa City. The privately-owned farm shops can be further classified into four types (traditional, diversified product, agri-processing-commercialization and experiential-collaborative). The traditional type simply sells a small number of farm products that do not fully satisfy the varied demands of urban residents. As a result, the selling time is short, and the number of varieties of products is small. Moreover, the farm produce shops are closed for much of the year. The diversified product type strives to accommodate urban residents’ demands, so farm products are more diverse, and various sales methods are used. The agri-processing-commercialization type includes the sales of processed farm products and the services of on-farm cafes or restaurants. The experiential-collaborative type responds to urban residents’ needs for safe and secure farm products and for recreational activities, and also provides first-hand experience of work on the farm. In response to continuous urban expansion and diversification of urban residents’ needs, there has been a shift from the traditional type of farm produce shops towards more complex types like the diversified product type, the agri-processing-commercialization type and the experiential-collaborative type. This evolution reflects the process of commodification of rural space in the Sunagawa area.

**Study on Rural Tourism and Food Tourism (Dr. Kikuchi)**

I provide some ideas on the potential development of geographical studies on rural tourism in terms of rural geography. Rural geography approaches to rural tourism turned from the static analysis of actual conditions towards the dynamic analysis of regional changes in relation to characteristics of rural areas. In recent years, with conservation and sustainable use of rural environment becoming leading themes of rural tourism studies, the framework of sustainable rural systems plays an important role in approaches to rural tourism. These trends in rural tourism studies correspond to a shift in the geographical debates on rural areas, away from the framework of productivism, towards that of post-productivism. While economic profit is the engine of rural development within the framework of productivism, the central elements of sustainable rural development within the alternative framework of post-productivism are the multi-functional use of rural environment and diversity of resources. Geographical approaches to rural tourism, therefore, use the framework of post-productivism for general discussion on the multi-functional use of rural environment and resources. The present paper suggests the use of the framework of food tourism as a synthetic approach to rural tourism, which is based on diversity of rural environment and resources. Within the framework of food tourism, the focus is on spaces of rural, agricultural, market, slow food, and gourmet landscape and their respective hierarchy; each space is nested within a multi-layer structure from the broad rural space to the specialized gourmet landscape. The space of food tourism is based on traditional, cultural, ecological environments in addition to socio and economic environments, and is mutually connected with others. As a result, the sustainable development of the whole space of rural tourism is possible, based on the multi-network system of spatial contents such as rural, agricultural, market, slow food, and gourmet landscape.

**Study on the Sustainable Development of Nature-based Tourism (Dr. Kikuchi)**

Nature based tourism is increasing throughout the world and particularly in Japan. Most is based in national parks and restricted areas. As the increase of the population in Japan, it is difficult to protect the flora and fauna unless there are economic benefits to the country as well as to the local people. The conversion of more and more land to agriculture and resort areas leads to loss of habitats that are crucial to animals and plants; disappearance of forests, pollution and construction works also contribute to loss of habitat. Due to the increasing demand of tourism industry in Japan, more land is being converted to resort areas and new roads. Such hotel and road constructions lead to the destruction of the natural environment. This research suggests that nature oriented tourism can be one means to help achieve sustainability as well as protecting the important world heritage site. Well-planned tourism (the case of Australia and Canada) could provide economic and political incentives for proper management and
for conservation and could bring additional benefit to local communities and regional economies.

**General flowering phenomenon in Southeast Asia (Drs. Numata, Hosaka and Ikazaki)**

General flowering (GF) is supra-annual community-level synchronization of reproduction of many plant taxa in Southeast Asian rainforests. In this region, diverse tree species including dipterocarp species represent reproductive synchronization with 5-7 months at irregular intervals of 1–10 years. GF results in a massive number of fruits in the forests, and therefore GF plays a central role in the successful regeneration of dipterocarp forests in Southeast Asia. In this fiscal year, we quantified interspecific variation of flowering and fruiting behavior of 112 dipterocarp species and identified reproductive synchronization events for 35 years using long-term monthly record of dipterocarp trees grown in dipterocarp arboretum, in Forest Research Institute Malaysia (FRIM). We found a significant interspecific variation in reproductive frequency and timing of dipterocarp species. Both drought and low temperature were strongly related to the reproductive behavior of the species, but their response to climatic factors were different.

**Conservation and sustainable use of biodiversity in urban and peripheral ecosystems (Drs. Numata, Hosaka, Kikuchi, Ikazaki, Shimizu, Kawahara and Katagiri)**

The world’s urban population is predicted to reach nearly 5 billion by 2030 with much of this growth in developing countries and in cities with < 500 000 inhabitants. Green areas have been justified on the basis of ecological and social services such as improved climate, hygiene, aesthetics, recreational opportunities, environmental protection and biodiversity. In order to improve and optimize urban biodiversity, participation of local people is essential. However, the increasing human population and the associated increase in rates of resource use and habitat loss are forcing competition between wildlife and people for space and food resources (human-wildlife conflict). Towards an achievement of conservation and sustainable use of biodiversity in urban and peripheral ecosystems, we have conducted 1) evaluation of natural environment and biodiversity in urban and peripheral areas, 2) understanding of natural resource use by local community in urban and peripheral areas, and 3) identification of current and emerging human wildlife conflict in urban and peripheral areas.

**How does tourists’ experience influence satisfaction? The case of Shiretoko World Natural Heritage, Hokkaido, Japan (Drs. Numata and Hosaka)**

Nature-based tourism is one of the leading foreign exchange earners in several countries. Wildlife tourism is tourism undertaken to view and/or encounter wildlife, and should satisfy conservation and development objectives to be considered sustainable. However, tourism can also impact wildlife through stress and behavioral modification due to proximity, feeding, accidental fires, noise, traffic, and harassment. Wildlife tourism would be sustainable only if it contributes to the conservation and survival of target species and their habitats, provides benefits for local communities and community development, offers good quality tourism in line with market expectations, and is commercially viable. In this study, we examine how tourists’ experience influence satisfaction in Shiretoko World Heritage. First, to evaluate potential tourist attractions, we gathered information on sighting and animal signs of brown bear. Second, we evaluated visitors’ motivations, expectations, experiences, and satisfaction regarding wildlife- and tourism-preferences using a questionnaire survey.

**Analysis of one-day tourist dynamics using people-flow data (Dr. Sugimoto)**

This study examined the use of a large data set of people flow derived from “person trip data” to analyze one-day tourist dynamics in metropolitan areas. Three main topics were studied in the Tokyo metropolitan area as the case for this fiscal year: 1) space–time visualization of tourist dynamics in aggregate and individual levels 2) application of exploratory spatiotemporal data mining 3) comparison with the results of previous research on foreign tourists’ movement.

These clarified the spatial and temporal characteristics of one-day tourist dynamics in a large-scale area such as a metropolitan area. Future work will focus on other aspects of analysis, such as differences in tourist behavior based on age and gender.

**Examining a destination-based concentric model of tourist behavior: A case study of the tourism region in the metropolitan suburb (Dr. Sugimoto)**

In theoretical and empirical studies of spatial behavior (such as movement and flow) of tourists, researchers have mainly focused on the spatial relationship between destination and residential location of tourists. As one approach, some have adopted a concentric model—which means that distance influences tourists’ behavior, perception, and the frequency of trips—to analyze patterns of tourist behavior. This study examined the concentric model using a questionnaire survey of tourists at the Mt. Fuji area, an international tourist destination in a metropolitan...
Quantitative analysis on the spatial characteristics of tourism regions (Dr. Sugimoto and Kikuchi)

The spatial characteristics of a tourism region have been perceived and analyzed by considering the elements of the human and natural environment and their distribution and extent in space and time. However, most previous studies have described those characteristics using maps on land use or tourist-attraction distribution, and applications of quantitative analysis are few. This study examined methods for analyzing the spatial characteristics of a tourism region using GISs in both micro and macro scales. The former collected detailed information about land use and tourist attractions in Hakone and Motohakone through field work and housing maps and changed this information into spatial data that can be handled in the GIS environment. The latter created a spatial database of locations and typologies of tourism-related sites and facilities in Japan and then analyzed these distribution patterns based on their relationship with the surrounding artificial and natural environment. Combining these methods with qualitative analysis using interviews and topographical information will be considered in the future.

Development of a Web-based GIS for the geo-visualization of tourism-statistics data (Dr. Sugimoto)

Web-based GISs, which show tourism-statistics data on maps and are open to the public, were developed as tools for supporting tourism-based research, education, and business. Two types were developed during this fiscal year. One provides information about the distribution and appearance of tourism resources in the nation and the number of tourism resources in each prefecture. The other shows tourist flow between prefectures during a given month and year. The developed tools will contribute to reducing the number of charts and graphs created in the early stage of macro-scale tourism research, because tourism-statistics data in any prefectures during a given month and year. The developed tools will contribute to reducing the number of charts and graphs created in the early stage of macro-scale tourism research, because tourism-statistics data in any prefectures during a given month and year. The measurement of the tools’ usability and improvement by adding new functions is planned in a future work.

Development of Soil Conservation Technique both for Preserving Coral and Creating New Tourism Resources in Okinawa, Japan (Drs. Ikazaki and Kosaki)

In Okinawa, corals are being damaged by bleaching, feeding by Acanthaster planci and habitat degradation from seawater pollution, and all of which are closely related to the eroded soil materials from the sugarcane fields. The objective of this study, therefore, was to develop an agricultural technique which can control water erosion in the fields and also create new tourism resources. So far, we have developed “Winged bean (Psophocarpus tetragonolobus) band” in which Winged bean having a potential for fermented food is used as a cover crop, and verified its effectiveness for water erosion control in the collaborative study with Japan International Research Center for Agricultural Sciences (JIRCAS). In 2014, we first made a sample of sweet Miso, Japanese seasoning traditionally produced by fermenting soybeans, from Winged bean. Then, we conducted a tasting event in Okinawa and examined the sales potentiality using the questionnaire (n>300), and found that Winged bean Miso and Miso-flavored ice cream have a high potential as a souvenir. Finally, we carried out an economical estimation and showed that the expenditures necessary for the implementation of the “Winged bean band” can be covered by the sales of Winged bean Miso and Miso-flavored ice cream.

Conservation and sustainable use of biodiversity in urban landscapes in Asia (Drs. Hosaka and Numata)

This project aims to evaluate advantages and disadvantages of biodiversity conservation in urban areas and balance them to make a practical and sustainable plan for urban biodiversity conservation. To evaluate negative aspects of biodiversity, I analyzed data on the number of consultation and extermination of pests provided by local governments and the pest control association in Tokyo. Also, I held a workshop on urban ecology at the annual meeting of Ecological Society of Japan and presented some of the results.

Understanding of plant-seed predator interaction using DNA barcoding (Dr. Hosaka)

Host-seed predator relationship is still largely unknown in tropical rainforests mainly due to the difficulty for rearing out adult insects. This study aims to reveal fauna of seed predatory insects on many tropical tree species using DNA barcoding. I fortunately encountered a large mast-fruiting in Pasoh Forest, Malaysia, and collected 11,000 seed samples from trees in 72 species and 18 families. The seed predators in these seeds are reared with the seeds in the laboratory and collected when they emerge as adults. Collected seed predators (mainly weevils and...
Development of research tourism as a new tool for science communication (Drs. Hosaka and Numata)

I conducted the survey on the status of science communication between researchers and local people around the World Heritage Area in Shiretoko, which have high values in both scientific research and tourism activity. I found that researchers and tour guides in Shiretoko have fewer interactions than those in Yakushima, and work independently following their guidelines.

Nature based Tourism and its Environmental Sustainability in National Parks in Sri Lanka (Dr. Ranaweerage)

A large portion of world’s biodiversity occurs in developing countries, and nature based tourism is considered as an important tool to secure funds for nature conservation in these countries. However, rapid expansion and development of this segment of tourism has caused growing concerns about its environmental sustainability. This study reveals (1) the status and trends of nature based tourism in Sri Lanka based on a review of annual statistical reports and tourism strategies in the country, and (2) identifies environmental sustainability issues associated with nature based tourism with a case study of elephant watching tourism in a key protected area in the country. The analysis of annual tourism statistics showed a significant growth in nature based tourism sector with a higher visitation in natural parks in recent years and wildlife as the key attraction for nature based activities identified the occurrence of tourism disturbance on free ranging elephants due to close distances, vehicle noise and tourist behavior. Therefore, a high focus on tourism impact on wildlife and identification of proper measures to minimize such impacts are essential in tourism strategies and nature based tourism planning in the country.

The Role and Importance of Geography Education in International Exchange Programs at Japanese Universities: A Case Study of AIMS Program at TMU (Dr. Ranaweerage, Dr. Kikuchi)

International education exchange programs are increasing at university level in Japan with the aim to produce globalized human resources and create understanding among regions. The goals of geographic education also focus on regional understanding and relations between regions locally and globally. This study discusses the importance of including geography education in academic exchange programs and its role in enhancing regional awareness. Department of Tourism Science at TMU is actively involved in a recently started student mobility program with ASEAN countries called AIMS program. 35 undergraduate students from Malaysia, Indonesia and Thailand under AIMS program to TMU were surveyed on their regional awareness of Japan before and after taking a course on regional geography based on a questionnaire survey. Majority of the students visiting Japan for the first time had very little understanding about Japan and its regions before participating in the regional geography course. They clearly stated that regional geography approach helped them to understand different regions and their characteristics. As a result, they were motivated to further learn about different places outside Tokyo, and to experience different aspects of Japan. Therefore, the current study indicates that geography education for foreign exchange students positively contribute to regional awareness and interaction.

1.2 Culture-Based Tourism Unit

Study of the history of the Tokyo Station (Prof. AZUMA)

The Tokyo Station, the centre of the railway network system in Japan, is restored in 2012. Although it was damaged by the air raid in the Second World War and repaired temporarily, the station is the symbol of Tokyo. This study includes the life of Prof.Kingo Tatsuno, an architect of the station, the details of the building and the present meaning of the station in the context of tourism. Also the gate of Takeo Spa-Town, which was designed by Prof.Tatsuno in the same period with the Tokyo Station is studied.

A Study of Modern Cultural Tourism in a City (Prof. AZUMA)

Various fruits observed in a heavy mass-flowering event which occurred after 20 years in a tropical rainforest in Malaysia

Tourists watching elephants at Udawalawe National Park in Sri Lanka
A Study on future transport planning and policy in Tokyo Metropolitan Region (Dr. Shimizu)

This study summarizes future direction of transport policy and planning in Tokyo Metropolitan Region with special focus to Tokyo’s Olympic and Paralympic 2020. Experiences in transport policy and planning toward London Olympic and Paralympic 2012 are analyzed with special focus to “Legacy” of the Games. Traffic flow and price sensitivity analyses on expressway network of Tokyo Metropolitan Region are conducted using toll transaction data for proposing advanced traffic and travel management system and schemes.

A Study on the Planning Technology Systematization and Education Development of Community-based Tourism Development (Drs. Kawahara and Okamura)

Recently, national and local government is pinning high hopes for a tourism as a regional revitalization method, but the scheme is still in beginning stages. Since, the field of Urban planning like Community-based development were tend to merge with tourism for a CBTD (Community Based Tourism Development), this research aims to systemize a planning technology for CBTD from the aspect of policy to the field work. This study is being carried out by “Tourism and Regional Planning Sub Comittee (representative: Susumu Kawahara)” in Architectural Institute of Japan. To set up a DMO (Destination Management Organization) system, we studied some advancement cities (England, Australia, Toba). Also, we conducted some surveys to get information the method of controlling the number of tourists and utilizing tourism to motivate sustainable preservation of historical areas.

This work was supported by JSPS KAKENHI Grant Number 26283016.

A study on the development a Regional Branding Strategy conducted by local communities (Dr. Kawahara)

The aim of this research is to develop a Regional Branding Strategy by local communities who contributes Community-Based Tourism Development. Until now, most of regional branding strategies focused on promoting local products as a specialty. However, reviewing some successful cases, this research
A study on the world of Geisha and Kagai as a place of inheriting Japanese traditional culture and local resources (Drs. Kawahara and Okamura)

The aim of this study is to develop the method for sustain, regeneration and utilization of the Kayukai (the world of geisha) as a means for inheriting Japanese traditional culture like architects as well as poetry, traditional string and dancing. As a case study, this study focused on the Nakamachi district in Hachioji, Tokyo where the number of Geisha is increasing. To get a result, this study defined “outdoor activities of Geisha” as Geisha’s outdoor performances such as festival performance. As a method, this research analyzed the contents and extending of “outdoor activities of Geisha”. Also, this research conducted newspaper reports survey to know the social response. As a result, this research showed the potential of increasing visitors who enjoy the Geisha’s culture owing to the growth of public performance of Geisha. This work was supported by JSPS KAKENHI Grant Number 24360246.

Characteristics of Open Factory in Terms of Local Revitalisation Scheme - A Case Study on Ota Ward, Tokyo- (Drs. Okamura and Kawahara)

Recently, in Japan industrial areas have paid attentions to tourism as one of the regeneration methods by not only individual manufacturing company but also an industrial area as a whole. We two Universities collaborated with the local tourism association and proposed an Open Factory, where multiple factories are open to the public simultaneously in a specific area and several programmes are also held like a walking tour, talk-show by skilled workers and newly product development for consumers. Normally it is rare for ordinal people to access such

A study on the development method for simultaneous community organization during large-scale town development (Dr. Kawahara)

Since about 2002, Japan’s real estate development companies have tried to develop a sense of community among new residents of high-rise apartments and collective housing towns with more than 300 houses through community organizations, such as “neighborhood or resident associations.” Originally, these types of organization were established to clean up local town and prevent disasters and crimes. This study aims to establish a model for developing the sense of community in a new collective housing town by surveying Japanese real estate companies.

To get a result, this research selected some cases which have achievement to improve sense of community in a large-scale town development. Using these cases, this research organized 3 types of viewpoints; process of building organization, the transition of activities and the relationship with other neighborhood or resident associations. Also, using this strategy, we established a community facility plan with local residents for new comers in a large-scale town development. These residents are composed of various fields such as land owner, developer, urban planner, NPO worker who manages forest and vegetable filed, designer, community café owner, musician and professor.
kind of space, person and product. Likewise in Japan, other industrial areas have also started a similar one. Thus, this research aims at revealing characteristics of Open Factory in terms of local revitalization scheme by both a comparison among different types of industrial tourisms and a closer examination of Ota Open Factory. Firstly, We could find out four types of industrial tourism in terms of both a visitors’ attraction and a way of factory visit; single factory visit, multiple factories tour, factory-scape tour and Open Factory. Through conducting a field survey and an interview with an organiser, it revealed that an Open Factory has a strong sense of a locality because it focuses on different resources and promotes for visitors to walk around within area. Furthermore, Open Factory offers an opportunity for an interaction between visitors and manufacturing because it is easier for them to access its components like machines, products and workers.

**An OPEN HOUSE Program as an Educational Activity and Awareness Campaign as a part of Local Resource Management Based on Building Stocks (Dr. Okamura)**

Open House is a program, where multiple houses are open to the public simultaneously within a specific area. This research focuses on this kind of program held across Japan and in London, UK. We collect seven different types in Japan like those targeting from a home, distinctive architecture to an activity inside a building and analyses what organisers are aiming at through it and how they approach relevant stakeholders. As a result, Firstly, we reveal that an Open House is organised with the aim of playing an educational and enlightenment role as a part of local resources management based on building stocks like preservation and enhancement of buildings and creation and promotion of area value. Secondly, we find out that at the days of Open House a variety type of events are normally arranged in order to promote totality of architecture and life and work and area value created based on architecture. Lastly, we explain that they provide an opportunity for multiple stakeholders to be involved in local resources management utilising building stocks.

Meanwhile, in London, UK we focus on homeowners opening their property to the public at Open House London. On the basis of questionnaire we finally reveals their motivation and role. Close cooperation between a homeowner and an associated architect made a decision of participation and hosted many visitors by providing a guided tour, etc. Homeowners fully understood an organizer’s concept “quality of architecture design” and took a responsibility of educating citizens instead of aiming at gaining economical or social benefit or regarding it as an opportunity to start something new. Such a homeowner in fact has repeatedly participated, which makes this program attractive.

**Conservation of the setting of the World Heritage Sites in London (Dr.Okamura)**

Over the last decade UNESCO has repeatedly concerned that high-rise buildings built near London’s World Heritage Sites would affect their surrounding landscape. Thus, the UK Government, the English Heritage and the Greater London Authority (GLA) have taken measures to some extent. This study reveals a history of the conservation approaches taken with regard to the surrounding areas of the World Heritage Sites in Central London, particularly focusing on the interactions between UNESCO and the UK and London governments at the UNESCO World Heritage Committee. Furthermore, taking particular note of “setting”, which is a relatively new concept of conserving the surrounding area of World Heritage Sites, this study analyses how this spatial concept has been employed in terms of policymaking, planning and development control.

During the course of the discussions between UNESCO and UK, the UK and London governments have favoured the concept of “setting” over “buffer zone” in order to conserve the surrounding areas of the World Heritage Sites. They believe that the designation of a buffer zone would be regarded as negative in Central London, where development pressure is high. They also fear it might be difficult to conserve the visual integrity and views of Sites by buffer zones, whose boundaries must be specifically defined. Based on these debates, the GLA and the Mayor finally published a guide entitled “London’s World Heritage Sites – Guidance on Settings,” in which the term “setting” is extensively analysed and defined in terms of 13 elements including not only physical aspects but also visitors’ experiences and other considerations. Because the guide is designated as “Supplementary Planning Guidance” of the London Plan, every borough within Greater London is required to follow it. In fact, the Borough of Lambeth’s draft local plan includes the establishment of an independent chapter dedicated to the World Heritage Sites and the manifest conservation of the surrounding area of the Palace of Westminster. Finally, focusing on how this new concept of “setting” has been employed in the assessments made by the GLA and the Mayor for each development, the broader framework indicated in the Guidance has not yet thoroughly been applied, except with regard to view protection, which already has a long history of development control.

![The Cover of “London’s World Heritage Sites – Guidance on Settings”](image)
A study on sustainability of community based tourism based on the local natural capital (Drs. Katagiri and Shimizu)

This study discusses the sustainability of community based tourism based on the local natural capital in Sado city. We conducted the hearing and questioner survey to local guide organizations, community organizations involved in management of local tour and tourism bureau, and clarified current situation on the human resource, conservation and utilization of tourism resource and distribution of benefit relevant to local tours.

A study on biodiversity and sustainable development in Asian mega-cities (Drs. Katagiri, Shimizu, Numata and Hosaka)

This study examined the relationship between car accidents with wild animal on highway and the surrounding environment and structure of road to discuss the efficient preventive measures. The study target is Senai Desaru Expressway in Johor region of Malaysia. We collected data on the structure of boundary and geometric design of the highway through field survey and surrounding land use from local authorities as an accident factor. The relationship between accident sites and those factors was analyzed with multi-regression analysis by animal species (cow, boa and dog). We found specific patterns of land use associated with the high probability of accident by species and effect of guardrail as a preventive measures.

Study on relationship between the activity areas of foreign tourists and evacuation sites in Tokyo (Dr. Katagiri)

This study aims to clarify differences between the spatial structure of regional disaster prevention and tourists’ activity areas and to find effective way to guide their evacuation. Target area is central area of Tokyo and the activity areas were extracted based on the tourist guidebooks and tourists’ activity logs captured by GPS device. When the activity area extends across wards or doesn’t contain evacuation site, it would be difficult for tourists to know more accessible evacuation site. Meanwhile, since many of evacuation sites are sightseeing spot itself, it would be landmark to guide even when it is not designated site for the location. Local government and communities should know these differences, and offer proper information to tourists.

On the method of Gradual On-site Resettlement of the peripheral villages potentially-relevant with the conservation of the historic environment in Hue-Vietnam (Furukawa)

This research, with local planners’ first-hand assistance, takes the peripheries of the successive Imperial Tombs in Hue-Vietnam as precedents for investigating the distinct ecological system of East Asia, and tries to establish the sustainable management model of the peripheral villages around the Imperial Tombs, where local inhabitants can choose the living places and the lifestyles, subject to the acceptance of self-organized improvement of the dwelling environment.

As the initial step of this research, inventory survey related to the village history and villagers’ lifestyles and houses has been conducted in the periphery of the Gia-Long Tomb (the first emperor’s tomb in Nguyen Dynasty) in 2014. The investigation has clarified the characteristics of village settlement pattern and its transformation, and also the fact of increase in housing demands associated with household separation occurring on the entire village scale.

This research consequently seeks to present the historical architecture heritages a new set of Guidelines by going through the collaborative works with locals on the alternative methodologies for setting up and managing the New Buffer Zone, for the development controls required by UNESCO only set up the Buffer without specific guidelines —by which a single-unit historical building be concentrically encircled in the Buffer.

3.3 Tourism Policy and Tourism Information Unit

Social Implementation of Web-based Interactive Tour Planner (Dr. Kurata)

Together with Hara Lab at RACE Institute, Univ. of Tokyo, we...
worked on various activities toward social implementation of CT-Planner, a web-based interactive tour planner which we had developed. In the system side, we improved its user-interface design, revised its route planning algorithm to support public transportsations, installed a user log analyzer, and developed its API to promote other agents to use our tour planning engine. In addition, we prepared a demonstration experiment in Yonezawa City, participated in three events such as G-Kukan Expo, and had several lectures for non-academic audience.

Development of Adventure-game-style Virtual Tour Tool (Dr.Kurata)

We developed Zen-Sekai Guide-San, a set of a web-based virtual tour viewer and its Excel-based content creator, with which we can enjoy, as well as easily create adventure-game-style virtual tours using Google Street View. This tool aims at promoting ordinary people to create tourist information of their hometown or the places which they want to advertise.

Extraction of Valuable Tourist Information from Big Data (Drs.Kurata and Ai)

Together with Ishikawa Lab at Graduate School of System Design, TMU, we worked on the development of basic techniques for extracting attractive tourist spots, places, and topics from social big data, which is made from the user post to social media such as twitter and Flickr. In our lab, we examined appropriate themes of mass-photo-based tourist maps, developed a method for correcting Flickr photos’ time stamps, and developed a method for estimating a tourist’s strolling state from his/her GPS log.

Surveys for Commercial and Industrial Development of Ni-jima Village (Drs.Kurata and Naoi)

In cooperation with Ni-jima’s Chamber of Commerce, we had conducted various economy-related surveys in Ni-jima and Shikine-jima Islands in the past two years. From their results, we conducted several workshop with the residents to consider strategies and policies to achieve sustainable economy in remote islands in this year. In addition, we conducted a questionnaire survey which targets camping tourists.

Visitors’ evaluations of aspects of local lives in historical districts (Drs.Naoi and Kurata)

This project supported by the Grant-in-Aid Scientific Research investigates the formation of visitors’ gaze on the aspects of local lives in historical districts. Two referred journal articles about relationship between differences in the objects that visitors gaze on in historical districts and their impression of the districts as well as their loyalty to the districts based on the results of questionnaire surveys to visitors in the historical districts in Takayama City, Japan, were published. Findings regarding relationships between visitors’ gaze and desires that are perceived to be fulfilled are to be presented at an overseas conference. Furthermore, a questionnaire survey was conducted with foreign visitors in the same districts last autumn in order to elucidate differences between tourism spaces and local spaces from their viewpoint. The results suggest that both spaces differ from each other in light of mentioned spots. So that as it may, both spaces are suggested to have been evaluated based on the same evaluative criterion in that the regression analyses revealed positive effects of old and touristic senses on the overall evaluations of both spaces.

Planning for management of urban tourism resources in urban settings with focus on local living culture in Naha-shi. (Dr.Naoi)

This is a part of a project supported by the Grant-in-Aid Scientific Research and is conducted in cooperation with University of the Ryukyus. A participatory open-ended survey was conducted with 31 local students in and around shopping districts in Naha in Okinawa, Japan, in an attempt to investigate the effects of characteristics of settings, comprising tourism spaces, non-tourism spaces, intermediate spaces and spaces potentially attractive for tourists, on types of tourist activities, including seeking recreation, obtaining knowledge, reducing stress, and strengthening human relationship, which were perceived to be induced at each setting. The results imply that, while shopping activities, a part of ‘seeking recreation’ were perceived to be promoted at many settings, assumed products were found to be different; souvenirs were mentioned for tourism spaces, and local products were mentioned and for non-tourism spaces and intermediate spaces. ‘Strengthening human relationship’ with shop keepers was suggested to be induced at tourism spaces while non-tourism spaces were regarded as places for interactions with locals. The results were presented at an academic conference last December.

Visitors’ evaluation of houses in historical district, focusing on the aspects as historical houses and those as shops (Dr.Naoi)

In tourism studies, some academics have regarded commercial uses of historical houses as the enhancers of the attractiveness of the shops whereas others see such uses as the detractors of the houses’ historical values. Thus, the effects of the aspects as shops on those of historical houses when houses are seen as historical houses and the effects of the aspects as historical houses on those of shops when houses are regarded primarily as shops may be different. Nevertheless, such differences have not been investigated by past empirical studies. This study focused on historical houses that are used as shops and aimed to elucidate differences and commonalities between evaluations of the houses as historical houses and the evaluations when they are regarded as shops. Thirty university students were required to visit the important preservation district of historic buildings in
Kawagoe city, Saitama prefecture, Japan and were asked to rate designated ten shops on Semantic Differential Scales. The results point to positive effects of historicity of houses on the overall evaluation of houses. Furthermore, historicity of the houses were found to have positive effects on the overall evaluations of the houses seen as shops while the effects of commercialisation on the overall evaluation as historical shops were found to be negative.

**Research Site: The historical district in Kawagoe City, Saitama prefecture**

**The effects of the presence of Westerners on Japanese viewers’ evaluation of a historical district (Dr. Naoi)**

This study aimed to shed light on how characteristics of people and those of places affect tourists’ evaluation of the places, by focusing on the effects of Westerners at a historical district in Takayama City, Japan, on Japanese viewers’ evaluation of the district. Sixty-three Japanese students rated 18 slide photographs, featuring the market type, the long-established store type, and the residential area type of settings. For each type, photographs with no people, with Japanese and with Westerners were presented. The results imply the positive effects of Westerners on the subjects’ overall evaluation of settings through senses of activity and touristic uniqueness. The negative effects of Westerners are also implied regarding evaluations of calmness and harmony of the market type settings. As for the residential area type and senses of harmony, any effects by either Japanese or Westerners on the overall evaluation were not observed. The results point to the importance of the nature of settings, observable cultural differences between foreign tourists and visited settings, and meanings attached to the settings for promotion of inbound tourism to historical districts.

**Research Site: A historical district in Takayama City, Gifu prefecture**

**Relationships between expectations and visiting behaviours of academic meeting participants in light of destination attributes (Dr. Naoi)**

Whereas many past studies on MICE have focused on elements, such as facilities and services at venues, which relate directly to the quality of events, characteristics of hosting destinations and their effects on participants’ behaviours have rather been overlooked. This study investigated relationships between academic meeting participants’ expectations about hosting destinations’ attributes and sites they visited. Questionnaires were delivered to academic meeting participants attending a health-related meeting at Okinawa Convention Centre, and the respondents were classified based on their pre-trip expectations about the destination attributes and the sites they visited. The results showed that participants who expected to appreciate historical sites tended to visit diverse sites, while those who expected to enjoy the widest range of sites did not show a particular tendency to visit various places. Types of attributes academic meeting participants expect to appreciate were suggested to be important for expanding their visiting areas. The results of this study are to be presented at an international academic meeting.

**Research Site: Okinawa Convention Centre**

**Influences of university students’ overseas travel constraints on their tourism motives in consideration of destinations’ characteristics as the mediating factors (Dr. Naoi)**

In tourism studies, the effects of perceived constraints on overseas travel on potential overseas tourists’ motives have been argued to be negative in the main. However, the effects of pull factors, which are perceived characteristics of destinations, have been insufficiently investigated. This study aimed to elucidate the effects of pull factors on relationships between constraints on overseas travel as perceived by Japanese university students on their overseas travel motives. Questionnaires were delivered to Japanese university students, and 138 usable responses were obtained. The results of regression analyses showed that, as regards destinations that were perceived to be inadequately maintained, respondents’ anxieties about budgets, safety and cultural differences/language barriers were found to enhance motives to interact with others and relax, motives to experience local cultures and motives to develop themselves, respectively.
This study thus implies positive relationships between perceived constraints on overseas travel and travel motives depending on characteristics of destinations. Such relationships are possibly due to the assumption about what would be appreciated if visits to the destinations were actualised, about what should be done in order to avoid negative outcomes, and about the opportunities that constraints could bring about. Altogether, this study points to the importance of pull factors in studies on travel constraints.

**Detection of stroll behavior using GPS trajectory (Dr. Al and Naoi)**

This study tries to detect stroll behavior from walking behavior of tourist using GPS trajectory. If we can successfully detect stroll behavior, we can provide tourism information at appropriate location and effective timing. We have conducted experiments where we asked members to either take photos when they found something interesting or to recall and write on a map where they were strolling. Assuming photographing behavior approximates stroll behavior, we have analyzed average walking speed for whole trajectory and trajectory during stroll behavior. Finally, we proposed a method to extract stroll behavior, where detecting walking behavior at relatively reduced speed and lasting for more than a minute. Regarding future work, we have to improve the extraction method considering individual differences of walking speed.

![GPS trajectory and strolling behavior detected by proposed method](image)

**Costing spreadsheet for city planning restructuring urban area more compact (Drs. Al and Katagiri)**

The aim of this study is to develop a costing spreadsheet that supports municipality officials and residents while discussing future land use plan. Users are asked to input population distribution and several parameters at the first step. Referring these input, the spreadsheet automatically detects urbanized area and proposes future land use plan. The land use plan is proposed considering parameters so that future population will be as close as possible to the forecast population and investment for new land use plan will be minimized. Compared to the previous version, we have developed a new version of costing spreadsheet where cell numbers are added and new parameters are introduced to make the plan more precise, realistic, and reliable.

**Identifying characteristics of local districts experiencing population increase (Dr. Al)**

In population decrease era, it is an important issue to make urban areas more compact to ensure certain level of quality of life and efficient public services. In this study, we focus on population change patterns calculated from census data of several time periods assuming that population changes in local districts reflect residents’ preference on living environment and where to live. The result of this analysis will be a great help for decision makers to develop a future land use plan, especially selecting sub centers and deciding what kind of environment should be ensured in those sub centers to encourage residents to move into sub centers. As a first step, we conducted chi-squared and residual analyses to figure out what kind of living environment has a significant relation on population change. Discrimination analysis is applied to derive relative impact weights on population increase among 13 factors, selected from the previous stage. Finally, we proposed an evaluation method of living environment considering 13 factors and their weights. The final result suggests that local district with average level of environment is not enough to encourage people to move into the district.

**Study on Inbound Tourism Policy (Drs. Honpo, Shimizu, Kurata and Naoi)**

Study Group on Inbound Tourism Policy organized and managed by myself in corporation with Grunavi Research Institute Inc. and composed of Japan Tourism Agency, local governments, scholars and private sectors has been conducting a series of research on inbound tourism policy.

**The impact of regional cooperation for sustainable tourism community development (Dr. Takazawa)**

This research aims at realizing the impact and features of regional cooperation for sustainable tourism community development through the case study. The results of the previous studies are 1) Setting up the clear concept and goal, and share it with stakeholders, 2) Working in a wide range of areas, 3) Effective strategy of marketing, 4) Partnership with diversified bodies. However, further discussion needed 1) actual condition of reducing the environmental load and 2) cooperative structure in local level.
3. Publications

3.1 Nature-Based Tourism Unit

Takashi KOSAKI

Articles

Toshio KIKUCHI

Presentations

Articles

Books

Shinya NUMATA

International Journal of Tourism Science. 7: 45-51 (in Japanese)


Koun SUGIMOTO

Presentations


Articles


Books


Kenta IKAZAKI


Tetsuro HOSAKA


Ranaweerage Eranga


3.2 Culture-Based Tourism Unit

Hideki AZUMA


• The cooperation to the producing and appearances of Asahi TV program "The four architects and engineers in the 1964 Tokyo Olympic Games’(broadcast in December,2015)

Tetsuo Shimizu

Referred Articles


Non-referred Articles


Susumu Kawahara

Referred Articles


for planning viewing spots and cityscape control from the perspective of spectators visiting a shrine festival: Based on the idea of "Festival-scape", Summaries of technical papers of annual meeting, 2014.09. pp.1023-1026 (selected summary), Architectural Institute of Japan (in Japanese)


Non-refereed Articles


Yu OKAMURA


Yukiko KATAGIRI

Presentations


Refereed Articles


- Ai, H., Katagiri, Y. (2014), A costing spreadsheet supporting spatial planning for urban area with functions proposing reasonable plan under the consideration on infrastructure capacities, Research Abstracts on Spatial Information Science CSIS DAYS 2014, C12. (in Japanese)

Naoaki FURUKAWA


3.3 Tourism Policy and Tourism Information Unit

Yoheie KURATA


**Taketo NAOI**

**Referred Articles**


Other Articles


Presentations


Hisatoshi AI
Presentation


Articles


• Ai, H., Katagiri, Y. (2014) : A costing spreadsheet supporting spatial planning for urban area with functions proposing reasonable plan under the consideration on infrastructure capacities, Research Abstracts on Spatial Information Science CSIS DAYS 2014, C12. (in Japanese)


4. Awards and Honors

Takashi KOSAKI
- Award of Excellence, The First International Soil Judging Contest of International Union of Soil Sciences, June 8, 2014, Jeju, Korea
- International Union of Soil Science. Best Poster Award, 20th World Congress of Soil Science.

Kenta IKAZAKI
- Environment Minister’s Award/Outstanding performance award, 41th Environmental Award, Hitachi Environment Foundation and Business & Technology Daily News.
- Achievement award for young scientist, 13th Japan Prize in Agricultural Sciences, The Foundation of Agricultural Sciences of Japan.
- Best Poster Award, 20th World Congress of Soil Science, International Union of Soil Science.

Tetsuro HOSAKA

Yohei KURATA
- Best Prize, Geo-Activity Festa, in G-Kukan Expo 2014

Photograph: "平成26年度（2014年度）都市大学 東京 都市環境学部 自然・文化フリーリズムコース／都市環境科学研究科 投稿科学賞 学位記念当日 2015/03/21"
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