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1. Research Staff

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2. Research Summaries

2.1 Nature-Based Tourism Unit

Restructuring and development mechanism of urban farming as rural commodification in Tokyo metropolitan area (Drs. Kikuchi, Sugimoto and Ota)

This research focuses on the restructuring and development mechanism of urban farming, and also describes the local impacts of commodification of rural space, using the Sunagawa area in Tachikawa City as an example. Urban farming fulfils not only productive functions, but has increasingly been expected to have a range of various functions, 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. Their types in an area are considered to reflect the development process and restructuring of urban farming, and the degree of the commodification of rural space. 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, the agri-processing-commercialization and the experiential-collaborative types. This evolution reflects the development process and mechanism of urban farming with commodification of rural space in the Sunagawa area.

Commodification of rural space in British Columbia, Canada; a case study of the circle farm tours (Dr. Kikuchi)

Circle Farm Tours had their origin in the idea that the public could be reacquainted with agriculture through visiting farms, whether out of curiosity, or because they were attracted by the fresh produce for sale, or perhaps they were simply wanting a lovely country outing. The Circle Farm Tour is a roadmap to agricultural attractions in the Fraser Valley. The tour is self-guided, allowing visitors to explore the Valley at their own pace and experience agricultural attractions in a fun and interactive way. There are five Circle Farm Tours at Agassiz/Harrison Mills, Maple Ridge/Pitt Meadows, Langley, Abbotsford, and Chilliwack. In 2003, Agassiz/Harrison Mills in the District of Kent created the concept, and it has developed into a partnership among six communities in the Fraser Valley—Abbotsford, Chilliwack, Kent, Mission, Langley and Maple Ridge/Pitt Meadows—to encourage the development of a strong agri-tourism sector. For example,

Development of farming-experience garden in the Tokyo metropolitan fringe

Studies on rural tourism and food tourism (Dr. Kikuchi)

One of rural and food tourism studies reveals the development of wineries and its impact on rural commodification in Cowichan Valley in Vancouver Island, Canada. Wineries of Cowichan valley (total of 16) could be categorized as large-scale, medium-scale and small-scale wineries by the vineyard acreage. Mutual interdependency among wineries from small-scale to large-scale has largely impacted on its strong brand image and competitiveness in wine production regions through the development of wine tourism. Further, interconnections between wineries and local farms have resulted in the slow-food movement and the development of rural tourism, which could be identified as the core to the expansion of rural commodification. Weekly held farmers’ market has played a key role in creating close interactions between wineries and farms. Wineries of Cowichan valley originated as result of farmland acquisitions and wine productions by new farmers who longed for a rural and agricultural life. Their strong preferences and passion for wine and networking has triggered the commodification of rural space in the area.
the Circle Farm Tour in Abbotsford encourages visits to Granny & Grump’s Antiques, Birchwood Dairy Farm, Bakerview Eco-dairy, Fraser Valley Trout Hatchery, Maan Farms Market & Estate Winery, Neufeld Farms, Campbell’s Gold Honey Farm & Meadery, Tanglebank Gardens & Brambles Bistro, Onnik’s Blueberry Farm, Singletree Winery, Mt. Lehman Winery, Goat’s Pride Dairy, Lepp Farm Market, and Restaurant 62. In addition to these destinations, others, such as a pioneer village, museums, a fur trading post, garden centres, and a pottery studio are included in other Circle Farm Tours.

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

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). In this year, we analyzed reproductive seasonality of 349 canopy tree species including 89 dipterocarp and 240 nondipterocarp species. We found strong seasonality of dipterocarp species: two peaks, one in the first half and one in the second half of the year. On the other hand, non dipterocarp species showed less seasonality than dipterocarp species. We suppose that seasonality of dipterocarp is essential to strengthen synchrony of flowering and fruiting in a general flowering time.

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

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. Some papers in relation to human wildlife conflict in Tokyo and effects of childhood nature experience on tolerance to human wildlife conflict were published in this fiscal year.

Current situation and issues of comanagement in a protected area, Japan: The case of Yatsugatake mountain range (Drs. Numata, Hosaka and Takagi)

It is important to incorporate local perspectives in protected area (PA) policy to reduce conflicts associated with management. However, there is no clear consensus on the most suitable approach for this incorporation. To understand current situation and issues of comanagement in a protected area, we studied the integration of Yatsugatake mountain range in terms of awareness of issues on PA management. Our results reveal that only some issues on PA management were shared by stakeholders of the conference. Sharing management issues may be of strategic importance in promoting benefit and reducing conflict in PA.

Spatio-temporal analysis and visualization of tourist dynamics using GIS-based techniques (Dr. Sugimoto)

Using spatio-temporal analysis, a series of studies on tourist dynamics were conducted to elucidate the phenomenon of tourism and to elicit acquired knowledge that could be applied to tourism marketing and impact evaluation for tourism. First, tourist dynamics in metropolitan areas on single days were analyzed using a large people-flow dataset derived from "person-trip data." Next, we applied the area marketing method using GIS and conducted a study to examine the characteristics of the tourism site based on the visitors' residential areas. In addition, corporative research was conducted different subjects, such as motivation of urban residents with regard to nature-based tourism, spatio-temporal behavioral pattern of community cycle tourists, and sports tourist behaviors with a focus on football fans.

Fundamental study on effective space utilization for MICE strategy in cities (Drs. Sugimoto and Kikuchi)

With the intensification of global inter-city competition, attracting MICE has been regarded as one of the most important measures for strengthening a city’s international competitiveness. To facilitate the growth of the MICE industry in Tokyo, it is crucial that measures to develop organizations and personnel be implemented alongside measures related to aspects of implementation, such as those to facilitate regional cooperation for sightseeing tours after sales conventions and those to construct city infrastructure that is suitable for MICE. In FY 2016, fundamental surveys were conducted on MICE’s attractive strategies and the urban infrastructure in Tokyo, Singapore, Brussels, and Perth. In addition, spatial databases of MICE related
facilities were developed and events were organized.

**Comprehensive study on regional and tourism dynamics to facilitate problem solving and the reconstruction of urban tourism destinations (focusing on Ueno District in Tokyo) (Drs. Sugimoto, Ota and Kikuchi)**

The number of urban tourism destinations in Tokyo Metropolis has been growing; stable foundations for management have been established in response to huge market demand, including among city residents. However, various issues related to regional and tourism management have emerged due to changes in the city structure caused by urban development, population changes, globalization, the growth of competitive regions, etc. To provide a method for solving these issues and for facilitating the reconstruction of urban tourist destinations, a comprehensive research project on regional and tourism dynamics was conducted in the Ueno District, Tokyo. In FY 2016, spatial changes and the relevant driving forces were analyzed and clarified using several geographical techniques. GIS was used to visualize commercial and tourist spaces in the modern and Edo periods and the key persons in the Ueno District were interviewed. In addition, surveys were conducted on general matters such as, changes in population, industry, regional planning, and tourism policy and the analysis of changes in the industry composition, land use, and landscape of shopping districts.

**Study on youth tourism and its accepters (Drs. Sugimoto and Ota)**

As a subcommittee of the Japan Tourism Studies Association, we set up a research group consisting of six young researchers specializing in geography and started a project focusing on youth tourism and leisure in large cities. The purpose of this project included 1) to organize tourism and leisure, which young people can experience at each stage of their lives, 2) to understand spatial behavior, spatial recognition, and activity areas of youth tourism and leisure, 3) to understand the regional accepters of tourism and leisure were for young people and to identify the distinctive aspects of youth tourism and leisure behavior (interest in events, use of SNS, and others). Second, we considered question items for the web-based survey targeting young people. Third, each member investigated tourism and leisure spaces in Tokyo where young people gathered (such as live houses, event venues, cruise, animation shops, receiving places of educational travel, restaurants).

**Species interactions in urban and tourist areas (Dr. Takagi)**

Biodiversity comes from species diversification and interactions among them. For example, dietary speciation and host shifting have been proposed to promote herbivore diversification. When monophagous and oligophagous insect herbivores colonize new areas, they may lose their original host plants. Therefore, the insects sometimes use novel host plants, and colonize new areas. The availability of the new hosts can thus facilitate further expansion into regions beyond the geographic range of the original hosts. As a result, the insects specialize on different host plant taxa in different parts of their geographic range.

Recently, an appreciation has been developing of how multi-species interactions synergistically or antagonistically alter the ecological and evolutionary outcomes of interactions from outcomes predicted by pairwise interactions.

In urban and tourist areas, introduction of organisms by human activities may cause drastic changes in the biological communities. Thus, to demonstrate the interactions among organisms in urban and tourist areas, I conducted field surveys and experiments. I showed that 1) a speciation of plant bug, and 2) a potential impact of an exotic plant invasion on both plant and arthropod communities, at the glassland in a tourist area. I also showed that 3) a new host record of the seed parasitoid wasp, at the urban parks.

**Biodiversity conservation in urban areas (Drs. Hosaka, Numata, Kikuchi, Shimizu, Kawahara, Katagiri, Sugimoto and Takagi)**

To understand attitudes (i.e., preference, willingness for coexistence and tolerance) of urban residents towards wildlife, we conducted questionnaire surveys in Japan, Malaysia and Singapore. We found some common results across countries: (1) people liked insects and birds, but did not want to coexist with mammals, (2) people who had more experiences with nature in their childhood showed more positive attitudes toward wildlife, (3) females and elderly people had more negative attitudes toward wildlife than males and younger people. These results were presented in the annual meeting of Ecological Society Japan and Mammal Society of Japan, and published in PLOS ONE. Also, we made suggestions based on these results in the workshop with local governments for development of local biodiversity act.

**Entomological culture and insect-related tourism in Japan (Dr. Hosaka)**

Insects consist of more than half of global biodiversity and are one of the key components of ecosystem integrity. However, people generally looked insects with indifference, nuisance or disgust, which pose an obstacle to global insect conservation. On the other hand, Japanese people traditionally have insect-appreciating culture and still have variety of events and tourism related to insects. In this study, I conducted literature and website survey and described the extent and characteristics of insect-related tourism in the modern Japan as examples how to enjoy interaction with insects. The results of this study were published in a magazine of Entomological Society of America, American Entomologist, and The International Journal of Tourism Science, and were presented in a lecture of Open University to general public.
Flowering phenology of plants and seed predator insects in Southeast Asian tropical rainforests (Drs. Hosaka and Numata)

In lowland rainforests of southeast Asia, many plant species, including predominant dipterocarps, synchronously flower and fruit every 2-10 years, which is called general flowering. The timing of general flowering and its effects on animals and insects are unanswered questions in ecology for a long time. We analyzed the data on flowering and fruiting of 112 dipterocarp and 240 non-dipterocarp species for 35 years at arboretum in Forest Research Institute Malaysia. We found that 86% of dipterocarps and 83% of non-dipterocarps flowered less frequently than every two years. Dipterocarps tended to flower in March-May and/or September/November while many non-dipterocarps showed no clear seasonality. We also conducted studies on responses of seed-feeding insects to general flowering and seed predation intensity. The results of the study were presented in the annual meeting of Japan Society of Tropical Ecology and Ecological Society Japan, and published in a journal of Association for Tropical Biology Conservation, Biotropica.

Tourism effects on wildlife in protected areas (Dr. Ranaweerage)

Tourism-induced disturbance is becoming a growing concern in wildlife conservation worldwide as the target species for tourism are threatened or endangered species in many cases. It is concerned that disturbance from tourism activities can cause decrease in feeding time and increase in energy expenditure of animals, which degrade the health condition of animals and their reproductive ability. We examined the behavioral changes of free-ranging Asian elephants in a protected area in Sri Lanka. Human impact on free ranging elephants is often studied and revealed based on elephant death or injury caused by human–elephant conflict because such impacts are extreme as well as recognizable and comparably easy to measure. Consequently, less attention is paid on issues of non-consumptive use of elephants such as tourism disturbance on elephants.

The study identified specific behavioral changes of elephants during the tourism activities and also several causes for such behavioral changes. Further, the study discusses the importance of monitoring tourism effects on endangered species such as Asian elephants and taking proper measures including controlled tourist behavior and vehicle activity in protected areas in order to reduce disturbance of wildlife behavior.

Wildlife management and rural community in the third world (Dr. Ranaweerage)

Third world countries have high biodiversity, but also faces serious issues of wildlife management. One such issue is the conflicts between wildlife authorities and rural people. Establishment of wildlife management measures such as protected areas has been causing various costs to rural people including inaccessibility to resources, forced migration, wildlife damage to crops, properties and lives. Consequently, rural people are less supportive of conservation efforts. In this context, wildlife tourism is considered an important mean of connecting rural communities with wildlife authorities and rural development. This study investigated the involvement of rural community in wildlife tourism in Sri Lanka through the analysis of socio-economic data and revealed the impact of wildlife tourism in linking rural community and wildlife management by comparing the attitudes of people who are involved in tourism with those who are not involved in tourism.

A study on the foundation of coastal resorts in the Tokyo metropolitan area (Dr. Ota)

This research is based on an empirical approach to the foundation and management of the coastal resorts in the Tokyo metropolitan area since the 1990s when the production-age population began to decline. In the Southern Boso area located in the Tokyo metropolitan area in recent years, the guest house business developed after World War II had caused various internal and external problems. Specifically, the main problems in the accommodation industry are shortage of lodging because of aging and a decrease in lodging demand due to the development of the highway network. In this study, the regional response to these issues was examined from the viewpoint of land use, socio-economic infrastructure, and employment structure. As a result, it was suggested that the accommodation facility being used specially for school camps be upgraded and that the guesthouse region be maintained by expanding the working area that accepts women workers and seasonal workers from outside.

A basic study on the establishment of the industrial promotion plan in Kodaira City, Tokyo (Dr. Ota)

In recent years, the environment surrounding the city industry in Kodaira city, Tokyo, has undergone significant changes, including the relocation of factories and the reduction in size accompanying the progress of housing conversion and industrial structure, the discontinuation of individual shops, and the reduction in the size of farmland. For this reason, Kodaira City is planning to formulate a new basic industrial promotion plan and an agriculture promotion plan. Therefore, in order to make these plans, we obtained basic data by analyzing citizens’ purchasing behavior, industry recognition, etc. and studying the business situation from the point of view of the issues of city business operators, future directions, etc. For the survey, we conducted interviews with corporations, shops, and farmers and conducted a questionnaire survey among citizens, companies, and farmers in order to study the actual condition of the industries in Kodaira City. As a result, it was suggested that the problem of chronic shortage of workers in Kodaira City could be solved by high
women’s motivation to work. This survey was conducted in collaboration with Tokyo Metropolitan University, Kodaira City Industry Promotion Division, and Tama Shinkin Bank.

1.2 Culture-Based Tourism Unit

Development of Educational Programs for Experts of Regional and Tourism Promotion (Drs. Shimizu, Kawahara, Kurata, Okamura, Katagiri and Hirata)

An educational program for experts who plan tourism promotion measures and research on marketing strategies in regions in data-oriented ways was developed. In concrete, “Regional Project School” was newly launched under the collaboration of TMU and the Tama Shinkin Bank, and the school developed and implemented the educational program for administrative officers in local governments. In the program, participants learned basic skills on searching, analysis and display of regional dataset on demography, industry, landuse, transport and tourism, current situation on big data development and use. In addition, they exercised project proposal on regional revitalization using those skills and knowledge. The effects of the program was evaluated in four “data handling and utilization skills” through self-evaluation by participants. It was confirmed that many of them improved their data handling and utilization skills by the program. On the other hand, organizations and contents in each lecture, target policy field to be learnt in the program, and proper lecture level setting by considering participants’ data handling and utilization skills were confirmed toward the program improvement.

Studies on Analytical Methods of Geolocation Big Data and Statistics for Tourism Promotion and Transport Management Policies (Drs. Shimizu and Katagiri)

Several studies relating to analytical methods using geolocation big data obtained by mobile devices and tourism and transport statistics toward policy proposals were conducted. First, the effect of inter-city transport accessibility on number of tourist visitors to tourism destinations was analyzed using the Mobile Spatial Statistics (Docomo InsightMarketing Inc.). Second, inefficiency of inter-city travel by foreign visitors was evaluated using In-bound GPS Data (Navitime Japan Co. Ltd.). Third, route choice behavior and time value on expressway network in the Tokyo Metropolitan Region by time-of-day and day-of-week were analyzed using ETC transaction data and Mobile Car Navigation GPS Data (Navitime Japan Co. Ltd.). Fourth, production ripple effect of transport and tourism industries was analyzed through Input Output Analysis framework using Input Output Table and tourism statistics data.

Studies on Local Traffic Management Scheme for Community Development in Tourism Destinations (Drs. Shimizu and Katagiri)

Several studies relating to local traffic management scheme which promotes community development in tourism destinations were conducted. First, characteristics of willingness-to-pay to reservation fee and parking fee, on the assumption that ICT-based parking reservation system is installed to tourism destinations with insufficient number of parking slots and access road network, were analyzed through questionnaire surveys. Second, evaluation factors on traffic and tourism functions on street network with various types of travel demand and commercial activities in the World Heritage city was analyzed through questionnaire surveys toward development of evaluation method on local traffic management in walkable cities. Third, gaps between characteristics of bicycle use identified by interview surveys and measures listed in urban bicycle transport planning documents in US cities were analyzed.

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.

The Mount Takao Regional Tourist Area Management Project (Dr. Kawahara)

The aim of this research is to develop a new scheme and
methods of sharing tourism revenue with destination planning and management, in order to reduce negative impacts of tourism, and to create the personality and appeal of tourist areas. An example of this in practice is the Mount Takao Regional Tourist Area Management Project, an initiative triggered by the Takaosan-guchi Station Surrounding Area Urban Planning Policy established in March 2016 by Hachioji City Office. My laboratory first created models and took action for dealing with the issues raised by this plan, which cannot be resolved without the active involvement of local residents and businesses. The goal is to link these issues to sustained activities by residents and private businesses. For example, the traffic congestion encountered during the autumn leave season is a headache for local residents. One causal factor is the inefficiency of moving cars in and out of the temporary parking lots set up by residents. We created the Takao Town Parking! service, which enables car parking information at a glance and provide pre-booking online service (via the Internet). This does more than simply address the problem of traffic congestion: it also creates a scheme that allows parking fees to be raised appropriately based on the added value of pre-bookings. Some of the earnings from the higher parking fees are returned to the community in the form of Town Funds. We are dreaming on running community bus services, organizing marché, building new mountain trails to manage overused facilities.

Our research involves establishing a process for expansion by confirming user needs and how much users are willing to pay, building small test cases to verify feasibility, and share the outcome of successful activities with local communities through events and news release. In realizing these dreams, we joined forces with a company involved in the parking lot sharing business. We partnered with a parking business company to provide “Nokisaki parking”, a customized system for renting parking spaces of private houses. From now on, we aim to develop value-added services added to “the Takao Town Parking!”, and to decide how to manage the funds.

An action research study on an area management methods to regenerate “Satoyama” areas and to support community development at the time of large-scale residential housing development (Dr. Kawahara)

This project is an action research to promote the conservation and utilization of regional resources by using an area management method. Our laboratory has participated in “Area Management Association MINAMIYAMA(AMAM)” which aim to regenerate “Satoyama”, community-based forest, as a mitigation and to develop a sense of community in large-scale housing development in Inagi City, Tokyo. AMAM is composed of various stakeholders such as a land owner, a developer, an urban planner, an NPO worker who manages forest and vegetable filed, a designer, a community café owner, a musician and a professor. In 2014-2015 our laboratory organized a series of design workshops and events with other AMAM members to build a club house that later became the base of our area management activities, and to establish an area management organization to help start-up of activities. In fiscal 2016, seven projects conducted by AMAM members are started. The construction of the club house have opened at the April in 2017. Our laboratory led the activity archiving project to record and disseminate the history of activities on various media, with the aim of communicating the significance and activities of area management to people in the town for 10 years.

Theory construction and case study of “Open City Programme” (Dr. Okamura)

“Open City Programme” is a very simple idea that multiple local resources are temporally and simultaneously open for the general public to enter usually during a specific weekend, developing across the globe. These have been quite attractive because they are able to contribute to enhancing tourism or interaction, utilising public spaces or local resources and regenerating local community. This study comprehensively deals with a variety of “Open City Programme” initiatives and discusses the principle and the methodology for organising those. In 2016, particularly, focusing on “Open House”, which especially deals with building, we held a symposium in Tokyo and Yokohama in November, where Victoria Thornton, the founder of Open House London, participated and discussed with Japanese researchers and “Open House” organisers. Besides, we also worked diligently on writing for publishing a book.
Practice of “Walkable city” by Non-profit organisation in Chigasaki City (Dr. Okamura)

In August of 2016 Urban Design Centre Chigasaki was established as a non-profit organization requiring both civic nature and expertness, which address social issue in terms of urban design. That is such an organisation that contributes to creative work on the basis of the future vision with fostering collaboration between public, private and academic sector. Particularly, we focus on town walk, which could be the origin of improvement of town scape, promotion of health, developing tourism and supporting education. Therefore, this organisation has conducted discovering a local resource, providing multiple opportunities for walk and refurbishing urban spaces. Okamura as a vice president, has been in charge of organisational operation and projects. In January of 2017, they held a symposium in Chigasaki and attracted as many as one hundred people.

Vision making and practice of Ota Creative Town (Drs. Okamura and Kawahara)

Recently in Japan, the urban environment in industrial cities has been changing due to changes in the industrial, economical, and social structure. Ota Ward in Tokyo has small industrial districts, some of which are mixed-use areas and factories still possess sophisticated skill-sets, their working environment is inadequate as it is surrounded by too many residential dwellings. In addition, it is too difficult to pass technical knowledge onto succeeding generations. In this research, we focus on a comprehensive and active planning method, specifically, on how to integrate manufacturing, community development, and city promotion so as to solve this kind of problem in mixed residential-industrial cities. Firstly, we investigated the local resources, which consisted of a small industrial network of a "mixed-used" status in Ota Ward that had access to an international airport. Secondly, we created a vision encompassing these three points: (1) Stock (property) management, (2) Supporting Creative Industry, and (3) City Promotion via Industrial Tourism. Currently two projects are in progress: One is the industrial tourism event, "Ota Open Factory", which is a one day program where many restricted access small factories are opened to the public in the mixed-used industrial area; and the other is "Creative Town Lab. Tamagawa", which is an active community space (usable for education, workshops, meetings, exhibitions, events) that has been converted from a vacant factory. With these projects, we are trying to realize the area’s potential through activities, recreating a more creative and active city culture and identity.

Landscape Conservation Policy and Tourism Developments in the Traditional Settlement of Santorini Island, Greece (Dr. Okamura)

In recent years our research team has made investigations into the relationship between landscape conservation policy and tourism development in Greek traditional settlements designated by the various regulations of this state. This research focused on some specific differences of cultural landscape in traditional settlements of Santorini Island, Aegean Sea, which are designated and conserved by Greek government. Particularly, the traditional settlement of Oia is truly well conserved comparing to the other settlements. Actually, this research clarified the existence of several special regulations issued in 1993, 1995 and 2000 for this town exclusively. Among them especially the Executive Order of 1993 has to be regarded as the most significant regulation in relation to the preservation of cultural and natural assets as well as the maintenance of order in society. Analysing the above regulations, we also conducted field investigations three times. In conclusion, the research team attributed this high-quality tourism operation and management in Oia for these concrete developments of legal systems.

Local public transportation system as tourism infrastructure to motivate new urban tourism (Drs. Katagiri, Shimizu, Kawahara and Okamura)

This study provide the public transportation system and tourism program utilising the current bus service and tourism attractions for Tokyo center east area (Chiyoda Ward, Bunkyo Ward, Taito Ward, Sumida Ward). We conducted field survey in the area, analysis with the maps collected by the Tokyo Cultural Resources Alliance, and the project based learning (PBL) for graduate students to discuss this subject. The students proposed a concept “Sightseeing for another two steps, Daily life with another two steps” and public transportation system that supports the local living and activities as same as community-based urban tourism. They added the main line of the outer circumference which made use of the existing bus route and the community bus level line to the boundary area with design
that connects the bus stops and the surrounding attractions and activities. We held a forum for present this proposal with local government and the activity group in the area and exchanged opinions.

A Study on development of the hiking trails for citizens in urban fringe of Tokyo City during early Showa era (Drs. Katagiri and Okamura)

In 1930’s, Tokyo City and Tokyo Railway Bureau had developed “Shimin-Kenko-ro” (Hiking Trails for Citizens) in the suburbs of Tokyo. To clarify the implications and outcomes of the project as a tourism promotion project that targets for urban residents, we conducted literature survey focusing on (1) the development of project, (2) the stakeholders and their goal and policies and (3) the social background. We found that this project promoted multi-sectional or inter-organizational tourism development for Tokyo City. It was related to the policy of Ministry of Railways and the Ministry of Welfare, and both welfare and tourism section were concerned with this project in Tokyo City government. Tokyo Railway Bureau and other railway companies cooperated to develop the hiking trails and discount train ticket for hikers. For Local governments and other organizations in Tama, this project was a practice for the tourism development in Keienchi and Scenic zones of Tokyo Park System.

On the lifestyles and the living techniques in harsh monsoon climate: focusing on the methods of broadening “Habitability” of the flood-prone areas, Hue-Vietnam (Furukawa)

In the mid-stream area of the Huong River, Hue-Vietnam, many settlements have been formed and developed around the Citadel City (known as Kinh Thành Hu), despite having suffered from repeated floodwater damages until now.

For the purpose of mitigating flood disasters, Vietnamese government had built hydroelectric dams in the upstream region of the Huong River. However, such huge environmental control techniques of civil engineering works threaten to not only affect the environment of this region negatively but also change the inhabitants’ perception about life with water.

Understanding the how and why settlements could sustain their living in flood-prone areas is synonymous with learning the methods how local inhabitants have actively adapted their lifestyles to the harsh water environment and broadened “Habitability” of the areas.

In 2016 FY, I have analyzed the field survey results which have been conducted in 2015, for the purpose of building models of settlement reorganization for the areas of potential flooding in Hue-Vietnam that respect various types of water-friendly lifestyles, through defining the topographical features of each

This study demonstrate the interaction between the policies for parks and open spaces and urban greening and the urban tourism as a urban strategy. The target area is Singapore as a global city in Asia. We conducted literature research on the master plans, tourism plans and project, land use plans, housing development plans and leisure plans, analyzed the interaction of these sides. Furthermore, a field observation and a questionnaire survey to residents and tourists on “Southern Ridges” were carried out. As the result, we found that the relivence between enrichment of urban green space and improvement of the quality of life of urban residents is strengthened, otherwise as a policy side, it is no longer regarded as a direct tourism attraction as in the past. On the other hand, the park connector which links isolated tourism attractions and residential areas, as the case of Southern Ridges, we found that it is meeting needs of both local residents’ daily exercise and weekend leisure and tourists.
area and extracting the characteristics of lifestyles which can be seen in such flood-prone areas of Hue-Vietnam.

**On the historical environmental management of the Nguyen Imperial Tombs in collaboration with peripheral villages, Hue-Vietnam (Furukawa)**

This research, with local planners' first-hand assistance, takes the peripheries of the successive Imperial Tombs (registered as UNESCO World Heritage) in Hue-Vietnam as precedents for investigating the distinct historical-eco system of East Asia, and tries to establish the sustainable management model of the peripheral villages around the Imperial Tombs, where local inhabitants can continue their self-sustaining improvement of the dwelling environment.

As a result of the previous research activities 2014-2015, our group has found the possibility of the historical environmental management in collaboration with peripheral villages though the implementation of the challenging community participatory seminar in Hue-Vietnam.

This research, therefore, tries to conduct the collaborative pilot projects with locals, which contributes to improvement of the dwelling environment as well as to management of the integrated historical-eco system around the heritages with the following 3 goals 1) Rethinking the irrigation system and landscaping of this area in order to support the villagers to settle down to grow crops, 2) Building Communities for the local management of the regional resources, 3) Suggesting new tourism models which could advance the appropriate environmental education, alternative to the current prevalent heritage tourism.

**A review of KPI utilized by municipalities in tourism destinations (Dr. Hirata)**

The target of this research is policy and indices appears in Comprehensive strategy for overcoming population decline and vitalizing local economy for encouraging machidukuri based on tourism development. Firstly, we reviewed what kind of tourism resources can be the target of tourism branding and how to categorize them. Secondly, from the point of view of environment, goods, and intercommunion, we overviewed tourism policy and KPI utilized by municipalities which are known as good practices of machidukuri based on tourism development with intercommunion between residents and visitors. The research pointed out that most of KPIs set quantitative goal and are focusing on economic aspects, while only few KPIs are focusing on social aspects, and that some of the municipalities defines unique KPIs with qualitative goal.

**Development of methods bottom-up place-branding by both local governments and local businesses (Drs. Hirata and Kawahara)**

This research aims to show an effective way of Tourism Regional Development through workshops for Place-branding. Seven workshops were conducted to plan new tourism facilities in Akiruno city, Tokyo. Resultantly, sharing the region's images among participants, raising their awareness of Place-branding, and organizing the advantages and issues of Place-branding are suggested as the primary roles of workshops. Particularly, involvement of active local business operators in workshops is suggested to be important. Also, senses derived from local lifestyles are argued to be the key to effective differentiation of regional resources related to environments, local specialties and human exchange.

The proposed method is referred in the action plan for Akiruno Furusato Plan published by the city hall.

**Activities for information sharing professionals and citizens (Dr. Hirata)**

Council for Housing Community Development Support established in Architectural Institute of Japan take a project on supporting citizens to understand community development
Improvement and social implementation of web-based virtual tour tool (Dr.Kurata)
We continued our exploration of educational use of Daredemo Guide (a web-based virtual tour tool with which ordinary people can view and also create virtual tours making use of Google Street View and/or their own photos, which we developed last year). Also, in order to realize more impactful guide at, for example, tourist information centers, we have been preparing to introduce the "robot guide" which conducts his guide in front of the computer screen.

How interaction with locals fosters foreign tourists’ understanding of visited areas?: typification of the effects (Dr.Naoi)
On-site participatory research with sixteen students of a university in Tokyo, tour operators’ staff working in the prefecture, and a foreign resident, was conducted to investigate relationship between the perceived servicescape of the shops in shopping streets near Kokusai Dori Street, Naha City, Okinawa Prefecture, the participants’ impressions of the shops, and the fulfillment of their desires. The provisional results show that the accessibility of the shop staff may help fulfilling the participants’ desires to do shopping and to appreciate the areas when associated with senses of activity and locality. The interior decorations and goods for tourists were found to fulfil their desires to do shopping through a sense of activity while hampering the fulfilment of desires to appreciate the areas when associated with a touristic sense. Also, a questionnaire survey was conducted to laborers working in the same shopping districts regarding their emotional and housing issue. The project aims to build a scheme that researchers and residents can share the information on community development and housing. In this research we make a revision to the Sugoroku game which is a tool to create residents’ interest on community development. Our future work includes further improvement the tool to let the game become acceptable for students and other stakeholders.

3.3 Tourism Policy and Tourism Information Unit

Improvement and social implementation of CT-Planner, a web-based interactive tour planner (Dr.Kurata)
Together with Hara Lab at RACE Institute, Univ. of Tokyo, we continued our work toward popularization of CT-Planner, a web-based interactive tour planner which we had developed since 2009. This year, we increased its covering destinations to 69, started its multi-language versions (English, Korean, Simplified and Traditional Chinese, covering 35 destinations), participated in Tourism Expo Japan 2016, and conducted several public lectures and workshops. In addition, as a result of the collaboration with companies, CT-Planner was built into Japan Highlights Travel, a tourism promotion web site by Central Japan Railway Company, and installed at tourist information center in Keio Shinjuku Station.

Exibiting CT-Planner at Tourism EXPO Japan

Extraction of valuable tourist information from big data (Dr.Kurata)
In collaboration with Ishikawa Lab at Graduate School of System Design, TMU, Nanba Lab at Hiroshima City University, and so forth, we continued our work on the development of techniques for extracting valuable information for tourists and tourism-related organizations from social big data. This year, (i) we developed a visualization technique to illustrate the transition of popular photo-shooting spots using Flickr’s data, (ii) analyzed the effect and problems of promotion strategies of tourism organizations using Twitter data, (iii) monitored the player’s behavior of a world-widely boomed location-based game, Pokémon GO, using Twitter data, (iv) explored the application of a newly-introduced image recognition engine, Google Cloud Vision API, in tourism informatics studies, and (v) tried to visualize the spatial distribution of hidden risks for tourists using Twitter data.

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A shopping street in Naha City (Ichiba-Hon-Dori Street)
Visitor-luring photographs of destinations with natural resources that entail perceived risk (Dr. Naoi)

It is challenging to communicate the attractiveness of destinations to potential visitors within the limited coverage of photographs, particularly when the destinations have tourism resources that incorporate mutually contradicting elements, risk and attractiveness. Destinations with natural resources in crustal activity, such as volcanos, are the typical examples. This study aims to elucidate the characteristics of photographs that picturize destinations with those active natural resources to communicate their inherent attractiveness to potential visitors while minimizing the risk that they may perceive. In so doing, this study focuses on the presence of a visitor and a man-made structure designed for visitors as touristic elements as well as the presence of the volcanic plume as the intensifier of a sense attributed to the volcano’s crustal activities. With use of slide experiments, the effects of the presence of the above three elements on a touristic sense and senses of transcend grandness and security. The results imply the inclusion of the man-made structure for visitors as an effective measure to communicate their inherent attractiveness to potential visitors while minimizing the perceived risk. The results are to be presented at the annual conferences of Travel and Tourism Research Association (Canada) and Man-environment Research Association (Osaka).

Research on study abroad experiences to be told to others: the relationship between occurrence of overseas students’ experiences and the fulfillment of their desires (Dr. Naoi)

Tourists’ experiences may be influenced by both comfort and discomfort, which is regarded as typically observable in study abroad experiences that often entail relatively long-term contact with locals. Using a questionnaire survey to ex-study abroad travelers, this study aims to examine the relationship between both good and bad experiences that they wish to tell others, situations in which those experiences occur, and the fulfillment of their needs. The results illustrated relationship between their good experiences and the fulfillment of their love and belonging needs as well as relationship between their bad experiences and the failure to fulfill their safety and esteem needs. The respondents’ bad experiences within their affiliated institutions or with study abroad industry people tend to be intentional while their bad experiences in local spaces or with locals tend to be accidental. In their open-ended responses, many respondents’ showed positive remarks (e.g. “culture-shocking, but a good opportunity to reflect on myself”) regarding their bad experiences related to locals and failure to fulfill their safety needs. The above findings point to the importance of fostering study abroad travelers’ interactions with others within their institutions, and the safety and opportunities for them to reflect on their activities outside the institutions.

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

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

Achievements of “Top-Management-Seminar” for Tourism managers (Drs. Hompo and Aso)

This research is aimed exploring the way in order to continue from the current key issues at advancement and penetration of tourism management education research from 2011 on the initiative of industry-academia cooperation “Top-Management-Seminar” by Tokyo Metropolitan University department of urban environment faculty of tourism management sub-major course. Currently, students are composed of the executive candidate of the major companies in the tourism industry, more than 100 people in total from the first round of the participants, is expected to contribute to the network formation leading to the future of the travel industry.

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

Toshio KIKUCHI

Presentations

- Kikuchi, T. Development of urban fringe with the commodification of rural space; a comparative study between Canada and Japan. The General Meeting of the Association of Japanese Geographers, The Univ. of Tsukuba, March 2017.
Books • Reports

Shinya NUMATA
Presentations
• Foo, Y.S., S. Numata, T. Hosaka, M. Hashim. Effects of land use change on water yield in Peninsular Malaysia:ESJ Tokyo March 2017
• Ngo, K.M., S. Numata, T. Hosaka, Shawn Lum. Slow recovery of an old secondary forest in Singapore:ESJ Tokyo March 2017
• Cao, L., K. Fukumori, T. Hosaka, S. Numata, M. Hashim, T. Kossaki. Effect of tourism-related roads and trails on invasion by an alien plant, Clidemia hirta, in Endau Rompin National Park, Malaysia:ESJ Tokyo March 2017

Articles
• Hosaka, T., Y. Yumoto, Y. Y. Chen, I. F. Sun, S. J. Wright, S. Numata, Nur Supardi MN (2016) Sequential flowering of dipterocarps and pre-dispersal seed predation; which is better, early or late flowering. Biotropica. doi: 10.1111/btp.12371
• Azmy, M. M., Hashim, M., Numata, S., Hosaka, T., Md. Noor, N. S., and Fletcher, C. D. (2016) Satellite-based characterization of climatic conditions before large-scale general flowering events in Peninsular Malaysia. Scientific Reports. 6, 32329; doi: 10.1038/srep32329

Koun SUGIMOTO
Presentations
• Sugimoto, K., Koike, T. and Kikuchi, T. Intra-region tourist movement during a local event for tourists: A case study of a cultural festival in the Ueno district of Tokyo. 11th Japan-Korea-China Joint Conference on Geography, Sapporo, Japan, September 11-14, 2016
• Ota, K., Sugimoto, K., Kikuchi, T. Commercial accumulation in the Ueno district. CSIS Days 2016, November 17-18, 2016
• Hong, M, Sugimoto, K., Kikuchi, T. The restoration of commercial activities and tour area in Edo period: Through the spatial analysis and visualization combined with historical materials and GIS. CSIS Days 2016, November 17-18, 2016
• Sugimoto, K. and Suzuki, S. Evaluation of the Ueno “Cultural Park” Arts Festa. Tokyo, Japan, August 8, 2016
• Kikuchi, T., Sugimoto, K. and Doi, T. Ueno Project (including four presentations). Lecture on Regional Characteristics of Taito Ward, Tokyo, Japan, June 24, 2016

Articles
• Hosaka, T., Sugimoto, K., and Numata, T. 2017. Effects of childhood experience with nature on tolerance of urban residents toward hornets and wild boars in Japan. PLOS ONE. (in press)
• Sugimoto, K. 2016. Use of GIS-based analysis to explore the characteristics of preferred viewing spots indicated by the visual interest of visitors. Landscape Research. (in press)

Books • Reports
• Evaluation of the Ueno “Cultural Park” Arts Festa (Final Report)
• Compilation of the history of Ueno district since 1964 (Interim Report)
• Fundamental study on effective space utilization for MICE strategy in Tokyo (Interim Report)

Etsuro TAKAGI

Articles

Tetsuro HOSAKA

Presentations
• Hosaka, T. Do dipterocarps suffer more seed predation than non-dipterocarps? The 64th Annual Meeting of Ecological Society Japan, Waseda University, Tokyo, Japan. 14-18 March 2017.
• Hosaka, T. Tolerance of urban residents toward wildlife and influential factors to the tolerance, The 2016 Annual Meeting of the Mammal Society of Japan, Tsukuba, Japan. 23-25 September 2016.

Articles
• Hosaka, T., Sugimoto, K., and Numata, S. 2017. Effects of childhood experience with nature on tolerance of urban residents toward hornets and wild boars in Japan. PLOS ONE, in press.
• Hashim, M, Ito, S., Numata, S., Hosaka, T., Hossain, M. S., Misbari, S., Yahya, N. N., and Ahmad, S. 2017. Using fisher knowledge,
mapping population, habitat suitability and risk for the conservation of dugongs in Johor Straits of Malaysia. Marine Policy 78: 18-25.


Books • Reports

Ranaweerage Eranga
Books • Reports

Kei OTA
Presentations

Articles

3.2 Culture-Based Tourism Unit

Tetsuo SHIMIZU
Presentations

Articles
Susumu KAWAHARA
Presentations
- Summaries of technical papers of annual meeting, 2016.08, pp.415-418 (selected summary) , Architectural Institute of Japan (in Japanese)
- Ka,Y., Kawahara,S. and Okamura,Y. A Study on expansion of external capital stores and adoption by the local Historic District - Focusing on Kawagoe Historic District Promoting Tourism where is being Tourism Targeting --, Summaries of technical papers of annual meeting, 2016.08, pp.419-422 (selected summary) , Architectural Institute of Japan (in Japanese)

Articles

Yukiko KATAGIRI
Presentations

Articles

Yu OKAMURA
Presentations

Articles
Naoaki FURUKAWA

Presentations
- Yamada, H. and Furukawa, N. The transformation of the traditional building units and lots of the historical town of Khokana in Kathmandu valley from 1934 until immediately after the 2015 Nepal Gorkha earthquake: Case study along Nyala Dan street, ISAIAY2016, Sept. 21, 2016

Books • Reports

Norie HIRATA

Articles

Books • Reports

3. 3 Tourism Policy and Tourism Information Unit

Yohei KURATA

Presentations
Articles


Articles


Taketo NAOI

Presentations


Articles


Yoshiaki HOMPO

Articles


Makiko ASO

Articles

4. Awards and Honors

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