

Towards a Sustainable Society

From children to the elderly, what can we together in today's society learn from past generations and envision for future generations?



Designing a Sustainable Society through Intergenerational Co-creation

<https://www.jst.go.jp/ristex/i-gene/en/>

Towards Sustainability by All Generations

Despite dramatic advancements in science and technology, today's society faces many issues including declining birth rate, aging of population, growing fiscal deficit, increase in environmental burden, depopulation in rural areas, and increased risk of natural disasters. These issues are all related to sustainability and common throughout the globe, with some differences per country, as indicated by the adoption of the SDGs (Sustainable Development Goals) at the United Nations Sustainable Development Summit in 2015.

While various efforts have been made to tackle these issues, it is clear that a segmented approach treating them separately has limited impact. Instead, we should take a holistic approach towards the real problems in respective regions, taking into account the varied local resources available.

We believe that intergenerational co-creation is an important methodology in this regard. This is because an intergenerational approach makes people active, affects their mindset, enables gathering of diverse knowledge, facilitates consensus formation, and enhances sustainability of activities. More information on this can be seen in "What we have found so far" on the back cover.

This is not to say all problems can be solved by this methodology, or that there is no room for improvement. Hence, we would like to further develop methods of intergenerational co-creation as a social technology, so that people in many regions can take advantage of it. This will, we believe, help lead to the realization of sustainable society.

Our aim can be summarized in the following three points:

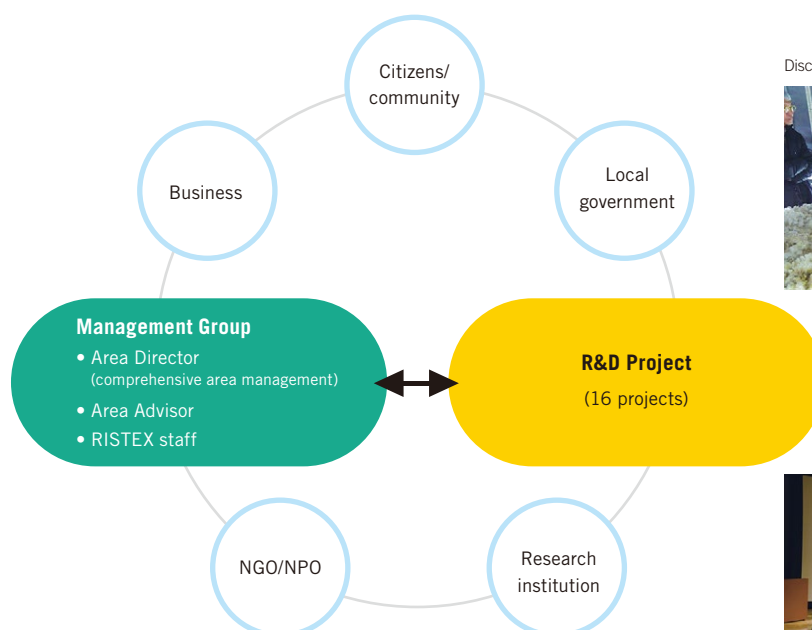
- 1 We will clarify how intergenerational co-creation is effective in achieving sustainability in cities and regions.
- 2 In the areas where intergenerational co-creation is expected to be effective, we propose mechanisms to promote, put into practice and improve it.
- 3 We will make efforts to implement these mechanisms in our society while building a network for exchanging experiences and know-how.

Almost all the projects in this research area have regional fields, owing to the above point of view, providing a venue for first verifying their research hypotheses. In addition, each aims for activities to continue in some way so that they become ingrained into society beyond the RISTEX research period. By "co-creation," we mean a cooperative activity to create something together, rather than simply allowing one generation to take care of the other. What we expect to be created are not necessarily physical products, but could well include values such as improvement in health or well-being, and reduction in fiscal deficit or environmental burden.

Area Organization



A general meeting for all projects and the management group (On-site lodging)



Discussions of the projects following site visits



Symposium for the discussion of achievements



Opportunities of intergenerational interaction have decreased in our daily lives, due to decoupling of production from homes, decrease in multigenerational co-habitation and lower birth rate. However, increase in free time as well as the development of information and communication technology may work to reverse this trend.

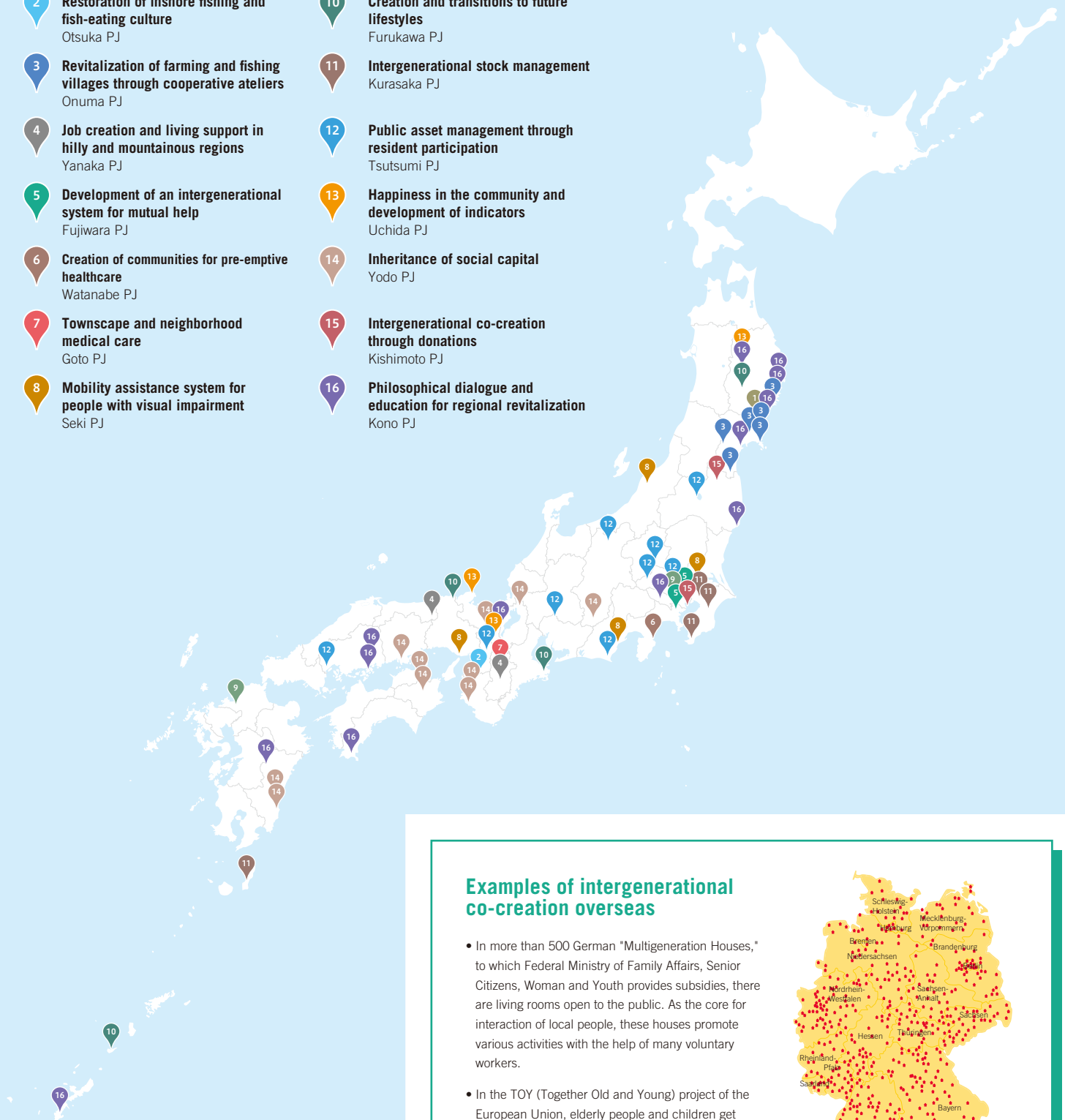
Area Director **Takashi OMORI**

Former Chair of Economic Committee, Asia-Pacific Economic Cooperation and Former Professor of Osaka University

Area Advisors : Emile H. ISHIDA (Representative Partner, Earth Village Research Lab. LLC / Professor Emeritus, Tohoku University), Masaki INABA (Executive Board Member, Japan Civil Society Network on SDGs), Junko OWADA (Co-CEO, LOHAS Business Alliance / Part-time Lecturer, Graduate School of Social Design Studies, Rikkyo University), Akiko OKABE (Professor, Graduate School of Frontier Sciences, the University of Tokyo), Kazuko GOTO (Professor, Faculty of Economics, Setsunan University), Mariko SAIGO (President, Machizukuri Company Sheep Network), Naoko SOMA (Professor, Graduate School of International Social Sciences, Yokohama National University), Atsuko HATTORI (Representative, Durable Social Innovation Alliances Association / Professor, Faculty of Policy Studies, Doshisha University), Koichi FUJIE (Adjunct Professor / Strategic Research Planning Officer, Institute of Advanced Sciences, Yokohama National University), Manabu MINAMI (Visiting Professor, Graduate School of Economics, Toyo University), Kiyoaki MURAKAMI (Senior Research Fellow, Mitsubishi Research Institute, Inc.)
[As of September 1, 2018]

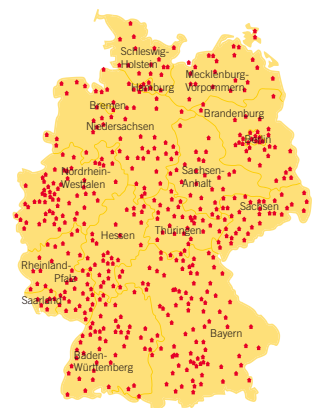
In the R&D focus area “Designing a Sustainable Society through Intergenerational Co-Creation,” 16 projects are in progress across the country.

- 1 **Creation of sheep-rearing based jobs**
Kaneto PJ
- 2 **Restoration of inshore fishing and fish-eating culture**
Otsuka PJ
- 3 **Revitalization of farming and fishing villages through cooperative ateliers**
Onuma PJ
- 4 **Job creation and living support in hilly and mountainous regions**
Yanaka PJ
- 5 **Development of an intergenerational system for mutual help**
Fujiwara PJ
- 6 **Creation of communities for pre-emptive healthcare**
Watanabe PJ
- 7 **Townscape and neighborhood medical care**
Goto PJ
- 8 **Mobility assistance system for people with visual impairment**
Seki PJ
- 9 **Regional restructuring through decentralized rainwater management**
Shimatani PJ
- 10 **Creation and transitions to future lifestyles**
Furukawa PJ
- 11 **Intergenerational stock management**
Kurasaka PJ
- 12 **Public asset management through resident participation**
Tsutsumi PJ
- 13 **Happiness in the community and development of indicators**
Uchida PJ
- 14 **Inheritance of social capital**
Yodo PJ
- 15 **Intergenerational co-creation through donations**
Kishimoto PJ
- 16 **Philosophical dialogue and education for regional revitalization**
Kono PJ



Examples of intergenerational co-creation overseas

- In more than 500 German "Multigeneration Houses," to which Federal Ministry of Family Affairs, Senior Citizens, Woman and Youth provides subsidies, there are living rooms open to the public. As the core for interaction of local people, these houses promote various activities with the help of many voluntary workers.
- In the TOY (Together Old and Young) project of the European Union, elderly people and children get together in 7 countries to read books and play games.
- The Seoul Metropolitan Government provides subsidies for room rent to university students in houses of elderly people as well as matching services between the owner and renter.



Multigeneration Houses in Germany

Source: Federal Ministry of Family Affairs, "Starke Leistung für jedes Alter" (2011)

Wakame mutton-based job creation

Creating an Intergenerational Platform for Utilizing Regional Resources through Sheep Farming



Katsuya KANETOU
Representative Director, Satoumi Farm
(2015.10-2018.9)

Certain areas affected by the Great East Japan Earthquake have major problems including the decline of local key industries mainly in the primary sector and outflow of younger generations, which accelerates depopulation and aging. Although a wide variety of support measures for reconstruction have been implemented, problems such as shortage of successors in primary sectors and the lack of attractive employment for younger generations have yet to be resolved, requiring approaches from fresh perspectives.

This project will construct a collaborative framework among the local people in Minamisanriku-cho, Miyagi Prefecture, with a sheep farm as its core, that will develop new products taking advantage of traditional techniques possessed by the elderly as well as addressing the problems of key industries.

In this way, we will create a wide variety of employment opportunities and build a sustainable community model in which multigenerational and diverse groups, including children, elderly and disabled people, can participate in the community with their own roles. Such a local community will create a new heritage and technology that would enable us to co-exist with nature.



Inshore fishing and fish-eating culture

Restoring a Beautiful and Rich Inner Bay through "Fish Local, Eat Local"



Koji OTSUKA
Professor, Graduate School of Humanities
and Sustainable System Sciences, Osaka
Prefecture University
(2016.10-2020.3)

Due to world population growth, sustainability of food and water supply is under threat. Therefore, we need to reassess the role of inshore fishing as a source of protein, which can be obtained with limited usage of water and energy. However, a declining habit of eating local fish leads to reduced demand for inshore fishing, and aging and decreasing number of fisherpersons.

In this project, focusing on fish caught in Osaka Bay, which used to be known as the "Sea of Naniwa (fish garden)", we will develop a regional model to create a virtuous cycle of people, products and money. Specifically, we plan to recycle fish scraps for pebble-like fish aggregating devices to attract fish, create and present a promising model of fisherperson for children, and to develop cooking recipes using local fish, through intergenerational co-creation. In addition, we will establish a distribution channel for local fish and develop technology to maintain freshness to be applied there. With these activities, we will revitalize community-based fishing and fish-eating culture.



— Reconnecting regional resources to nurture industry and culture —

Local livelihoods and lifescape

Restructuring Local Livelihoods and Fostering Diverse Lifescape through Cooperative Ateliers in Rural Communities



Masahiro ONUMA
Professor, Graduate School of Life
Design, Tohoku Institute of Technology
(2016.10-2019.9)

Rural areas that had enjoyed flourishing modern and/or traditional industries are deteriorating with population outflow. We can see many such cases in the Tohoku Region which aims to recover from the Great East Japan Earthquake, where demand for local products has been reduced substantially and locality is disappearing from the scene of daily life (diminishing lifescape).

This project will restructure local industries to make their regions sustainable by reviewing local resources from the modern perspective. Specifically, we will promote the operation and development of "Cooperative Ateliers" as a place to give birth to industrial and creative activities by gathering people with locally-rooted ideas and techniques, in the field of agriculture, mining, manufacturing, architecture and art etc. In addition, we build a network to link various cases in different areas, which will lead to new combinations of resources and transfer of technologies. These approaches will bring about a variety of lifescapes interwoven by co-creative activities and local resources.



Forestry and welfare

Development of an Intergenerationally Co-creative Community Model of Work-Life Integration



Shigeru YANAKA
Professor, Faculty of Regional Sciences,
Tottori University
(2016.10-2020.3)

A major problem in modern society is the significant imbalance between hilly and mountainous areas with depopulation and aging, and metropolitan areas with concentrated population and exhaustion both mentally and physically. Although an increasing number of people want to move to rural areas, there are not enough jobs and life-support services in the local community have been weakening.

In this project, we will create a means of living in hilly and mountainous areas by combining self-sustaining and self-employed forestry which takes advantage of local forests, the most valuable resources, with a wide variety of other possible jobs. We will create a mechanism in which there are mutual aids in community and support for young people returning or migrating, to establish a means to live with guidance from the elderly. In order to support these activities, we will foster tacit knowledge in the community towards "social knowledge" and make it available to everyone through the use of ICT. At the same time, we will train "support designers" who can create new values in local areas.



Developing a Multi-layered and Intergenerational System of Cooperation in Community



Yoshinori FUJIWARA

Team Leader, Research Team for Social Participation and Community Health, Tokyo Metropolitan Institute of Gerontology (2015.10-2019.3)



It is a challenge for all local municipalities in Japan to secure resources and manpower to take care of diverse and complex needs of child-rearing families as well as increasing needs of middle-and-old-aged families. However, they have not been so successful due to the fragmented administrative system and potential intergenerational conflict as people tend to seek the benefits for their own generations.

This project aims for realization of a community where all generations share the joy of healthy child-rearing by fostering “Generativity” that will create new values and cultures and pass them on to future generations. Specifically, we will develop an intergenerational system of local mutual aids, consisting of three layers: formation of a loose support network of daily greetings; development of various means and platforms that match demand and support for child and elderly care; and support for civic participation through developing intergenerational places and activity programs.

Evaluation of Effectiveness of Intergenerational Co-creative Community on ME-BYO



Kenji WATANABE

Professor, Faculty of Environment and Information Studies / School of Medicine, Keio University (2014.11-2018.3)



Escalating medical and care costs impose a substantial burden upon the young and future generations, with the declining birth rate and aging population. Therefore, maintaining and improving physical and mental health are needed both for the young and the elderly.

This project will develop a model for improving health and restraining care needs through community-wide efforts based on intergenerational co-creation as well as individual efforts, focusing on “ME-BYO” (between healthy and sick states), an idea from oriental medicine. Specifically, we will develop a tool that allows individuals to monitor their health condition and address their ME-BYO in daily life, and an evaluation system that provides the base for an appropriate intervention program for individuals. In addition, we will develop a social system which promotes lives worth living, mental health and physical health by bringing generations together, realizing an intergenerational co-creative community that proactively addresses the ME-BYO issues.

— Supporting life and well-being through people-connecting communities —

Revitalizing Streetscapes by Utilization of Vacant Houses and Neighborhood Medical Care



Haruhiko GOTO

Professor, Graduate School of Creative Science and Engineering, Waseda University (2016.10-2020.3)



The increased number of vacant houses is becoming a serious problem across Japan. In particular, in the Important Preservation Districts for Historic Buildings, the number of vacant houses is increasing due to restrictions on renovation, leading to difficulty in maintaining the streetscape. On the other hand, it is important for the health of the elderly to keep going out into the town to communicate with others, which also allows dependence on advanced medical services to be reduced.

This project will realize the concept of “Active People, Active Community” through revitalizing social capital in a deteriorated historic town by multigenerational groups. Specifically, in Imai-cho, Kashihara-shi, Nara Prefecture, from which the system of Preservation Districts for Historic Buildings originated, a local medical college will provide “Neighborhood Medical Care,” including outpatient services of Chinese medicine, rehabilitation training, health gymnastics, prenatal care and dietary advice, using vacant houses as a base. We will carry out these activities together with multigenerational people including medical experts and students as well as with various entities including local organizations, to accumulate empirical knowledge in community development so that it can be applied in other areas.

Development of Mobility Assist System for the People with Visual Impairment by Collaborative Creation of Multiple Generations



Yoshikazu SEKI

Chief Senior Researcher, Department of Information Technology and Human Factors, National Institute of Advanced Industrial Science and Technology (AIST) (2014.11-2017.11)



With Japan's declining birth rate and aging population, support workers for disabled persons are expected to age. We therefore need to design a society in which sustainable support is provided to disabled persons to encourage social participation of disabled people and active lives for multiple generations and diverse groups.

This project aims at establishing a new type of mobility assist system that enables collaborative and mutual assistance between the visually impaired of multiple generations. Specifically, we will develop a navigation system that allows a general-purpose mobile terminal carried by the visually impaired to automatically collect information on possible barriers to walking and share information through a cloud service. Such information can replace what has been collected by local volunteers and generate big data in the cloud for sharing and distribution in real time. In addition, based on local experimental demonstrations, we will establish methods of designing local communities made distinct by mobility assistance for the visually impaired of multiple generations, and promote institutionalization of such schemes through legislation and standardization.

Distributed Rainwater Management for a Sustainable Well-being Society



Yukihiro SHIMATANI
Professor, Faculty of
Engineering, Kyushu University
(2015.10-2020.3)



The present centralized water control system is efficient but managed in a fragmented way depending on the purposes of use. Consequently, comprehensive response to natural disaster risks such as torrential rain and floods is difficult to achieve. In addition, a water control system is not tangible to our daily life, and therefore does not attract people's attention, leaving the problem unattended.

This project proposes an "Amamizu (Rainfall) society," a reconstruction of a water-centered community in the Hii River area, Fukuoka Prefecture, with the introduction of a comprehensive water cycle which can take care of flood control, water utilization, environment and people's lifestyles. As a decentralized subsystem to complement the current water control system, we will take an approach of capturing and storing rainwater, and allow it to penetrate into the ground with the participation of intergenerational and diverse stakeholders in the area. This can contribute to people's awareness about water control while rehabilitating local productive ecosystems in collecting and using rainwater.

Creating a Fountain of Future Lifestyle Ideas



Ryuzo FURUKAWA
Professor, Faculty of Environmental
Studies, Tokyo City University
(2015.10-2019.3)



With foreseen stricter constraints on global environment and social constraints such as declining birth rate and aging population, new lifestyles which fit such constraints should be invented and put into practice, rather than stick to conventional pursuits of economic growth and convenience of living. This would enable us to realize a sustainable society with richness in mind.

In this project, we will create a foundation for suitable future lifestyles for four model areas with different constraints. Specifically, we will hold interviews with elderly persons aged around 90 to identify the values and regionality that made people live with richness in mind despite severe constraints before the war. Based on that, we will design new lifestyles using the back-cast method. In addition, we will develop a methodology to put these lifestyles into practice through intergenerational co-creation, so that this approach can be applied in many regions.

— Envisaging lifestyle and policies with an eye to the future —

Ensuring Sustainability at Local Government Level through Promoting Implementation of Multigenerational Participatory Stock Management Methods



Hidefumi KURASAKA
Professor, Graduate School of Social
Sciences, Chiba University
(2014.11-2020.3)



To achieve sustainability within a society fraught with depopulation and super aging, maintenance and handover of healthy capital stock (including human, manmade, natural and social capital) which serve as the foundations of society are essential. It is therefore vital that we discuss appropriate maintenance, management and use of capital stock taking account possible future transitions, and develop comprehensive regional design. As capital stock varies across regions it is important that local governments carry out stock management independently, but currently they lack the proper experience.

In this project, we will develop for local government officials a database to compare the current capital stock among local governments and software to project future capital stock. This project also aims to ensure sustainability at regional levels by manualizing and disseminating a stock management methodology including policy scenarios based on future forecast and consensus building with multigenerational participation.

Building a Support System to Public Facility Management for a Sustainable Region



Hiroki TSUTSUMI
Associate Professor, Faculty of
Engineering, Maebashi Institute of
Technology
(2016.10-2020.3)



In many provincial municipalities, financial conditions have deteriorated, in step with depopulation, falling birth rates and aging of population, resulting in a difficulty in raising revenue to maintain and manage public properties such as public buildings and civil engineering infrastructure. However, due to poor understanding of the current state of public properties, local governments and residents have little sense of crisis.

In this project, we build a support system so that local government officers, together with multigenerational residents, can develop ideal visions of public properties as the foundation of community life. Specifically, based on the rating on deterioration and usage of public properties, we will provide guidelines for public property management taking account of the need of future generations and develop a consensus building approach among stakeholders including local residents and assembly members. With the accumulated knowledge obtained in this process, we will build a platform to support various areas.

Practical Feedback for the Measurement of Various Aspects of Happiness in Local Areas and the Sustainability of Intergenerational Societies



Yukiko UCHIDA

Professor, Kokoro Research Center,
Kyoto University
(2015.10-2020.3)



In modern Japanese society where functions of local communities have been deteriorating, not only depopulation and aging but also poor relationships with others and breakdown in communication between generations are leading to decreased happiness. In order to achieve community-wide well-being, we need to create a new concept of happiness, which is more than the individualistic approach centered on individual happiness.

In this project, we will develop indicators for community happiness by measuring happiness in communities from various aspects. In addition, this project will clarify the relation between community happiness, and social capital as well as shared reality (accumulated/shared value and experience) among generations and at intra/inter community level. Based on this, we will verify the effectiveness of intergenerational co-creation to sustainable local societies and work on development of practical programs, which are tailored to local needs, for intergenerational co-creation, in collaboration with industry and government.

An Investigation regarding the Mechanism of Intergenerational Inheritance of Social Capital



Masato YODO

Associate Professor, Research Center
for Advanced Policy Studies, Institute of
Economic Research, Kyoto University
(2016.10-2017.9)



In many rural cities and towns, due to depopulation, aging, and financial constraints, it is no longer easy to appropriately maintain/manage infrastructure and functions of local communities. Thus, it has become difficult for diverse generations to live together and grow happily to old age. In order to address these circumstances, it is important that all the generations share and inherit the willingness for enhancing the value of the region through proactively participating in maintenance/management of the local environment.

In this project, we take two main approaches to resolve the above issue: a questionnaire on the Web, and case studies in multiple areas. Through these, we will clarify the mechanism of intergenerational handover of positive participation in altruistic behavior including community activities, while allowing some modification according to the modern needs.

Based on results of the two approaches, we will propose a method to increase the sustainability of community activities, including those in the future as well as existing ones which are valuable but have poor prospects for continuity.

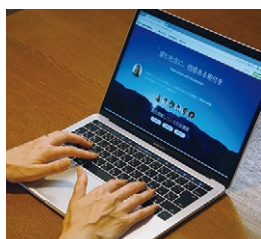
— Towards a new form of wealth in developed society —

Proposals on Intergenerationally Co-creative Models through Donation



Sachiko KISHIMOTO

Executive Director, Public
Resources Foundation
(2016.10-2017.9)



NPOs and social enterprises have started, from innovative points of view, to address pressing social issues, such as elderly and medical care, child rearing, environment and energy. In order to enhance their impacts, more active participation of a wide variety of supporters including women, the elderly and disabled is expected. Donations and bequests not only help to support financially but can also serve as important channels to encourage participation and understanding.

This project will propose an effective approach to mobilize individual and corporate financial resources as “social money” by studying a rating system that guarantees credibility of donors, information dissemination and donation systems suitable for various generations, and evaluation methods to measure the effectiveness of donation. In addition, we measure how important the sense of participation is in achieving sustainable society.

Regional Revitalization Education by Intergenerational Philosophical Dialogue and Project Learning



Tetsuya KONO

Professor, College of Arts,
Rikkyo University
(2016.10-2017.9)



Behind the deterioration of rural areas, there is a lack of human capacity building, with the absence of people who can recognize potential of local industries and bring them to fruition. Meanwhile due to scarce job opportunities, human resources have flown out to metropolitan areas. In order to create a sustainable local community, we need to enrich education on the use of local resources, which can create a virtuous cycle with local industries.

In this project, we will promote “philosophical dialogue” with children with the aim to create a sustainable community, in collaboration with local schools, libraries and research institutions. This dialogue is characterized by thorough exchange of opinions with an open mind, towards mutual understanding, creating values and building a consensus. Based on philosophical dialogue, we will set up projects for solutions in the actual social context, which will be supported by adults. Through these activities, we aim to create a model of “Education for regional revitalization”.

Research area questions

We have set the following research questions to summarize our findings, reviewed and updated periodically. Your feedback is appreciated.

01

What kinds of intergenerational co-creation could be effective towards realizing a sustainable society? What kinds of intergenerational approaches could be effective? Which aspects of sustainability can intergenerational co-creation address effectively, and for what reasons?

02

What are the possible incentives for people, especially young people including children, students, single young adults, and parents of young children, to join intergenerational activities?

03

If one generation has insufficient incentives to participate in intergenerational activities potentially contributing to sustainable society, what kind of institutional arrangements should we seek?

04

What are the implications of new and potential technologies, including but not limited to the information and communication technologies for intergenerational co-creation? How does it influence the effectiveness of intergenerational co-creation for sustainable society?

05

How do experiences of intergenerational activities change people's mind? What are the implications of such changes for the creation of a sustainable society?

06

What kind of strategies and considerations are effective for putting intergenerational co-creation on track?

07

What are the possible indices for intergenerational co-creation and intergenerational social capital? What are the suitable interim indices by which we can measure the effectiveness of our efforts toward the realization of a sustainable society?

08

How do factors that determine regionality change over time? What are the implications of local natural conditions in intergenerational co-creation activities towards a sustainable society? Would it really be possible for all local regions to find unique, different ways, even given their diverse conditions?

What we have found so far

Advantages of Intergenerational Approaches

- 1 Encourages the elderly to be **active** and young to be **motivated**
- 2 Provides a base for **mutual aid** in local communities
- 3 Promotes renewal and inheritance of **local traditional** arts, crafts and industries
- 4 Reminds people of the **course of history**, leading them to think of local history and nature, as well as future generations
- 5 Addresses problems caused by **segmented society**
Youths not yet part of a group, elderly who have already left their group
- 6 Lowers psychological **barrier** to participation and promotes **sustainability**
"Could you help us make our activities more inclusive of all ages?"
- 7 Introduces the "**healing power**" of children
More effective than animal or robot therapy?

(As of September 2018)



Bridging new networks

We are promoting a network of people engaged in sustainable communities. If you wish to receive information on events organized in this research area as well as the 16 R&D projects via email (Japanese only), please register on our website.

Website: <https://www.jst.go.jp/ristex/i-gene/en/>



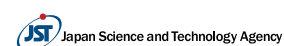
Check out our Facebook page here
(in Japanese only)

<https://www.facebook.com/持続可能な多世代共創社会のデザイン研究開発領域-1127292400701113/>



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