

"Lessons Gained and Know-how Gained from the Great East Japan Earthquake" Summary of Components

Purpose

A wealth of lessons and knowledge have been compiled on various reconstruction efforts in the ten years since the disaster.

Expectations on sharing and utilizing the lessons learned and knowledge gained with related organizations to prepare for the arrival of large-scale disasters

Compilation of a collection of lessons learned and know-how gained

(Ref) Basic Guidelines for Reconstruction in Response to the Great East Japan Earthquake After the "Reconstruction and Revitalization Period" (Cabinet Decision December 20, 2019)

In order to hand down the variety of lessons learned, including damage from the disaster and the concept of "disaster reduction," to the next generation and apply this to future disaster prevention and reduction measures, the consolidation and summary of initiatives that have been carried out throughout reconstruction, including reconstruction methods, will be promoted through support for the collection, organization, and storage of disaster and reconstruction archives by the prefecture and municipalities in cooperation with the "NDL Great East Japan Earthquake Archive (Hinagiku)."

Features

- Collection and surveys of an extensive number of examples* of initiatives by the public and private sector for recovery and reconstruction from the Great East Japan Earthquake. Contains descriptions of success stories, as well as remaining challenges.
- Identification of lessons learned and know-how gained from case studies, leveraging the expert knowledge of researchers in relation to recovery and reconstruction.
- Concise and practical descriptions to facilitate understanding on the part of local government officials and other stakeholders.

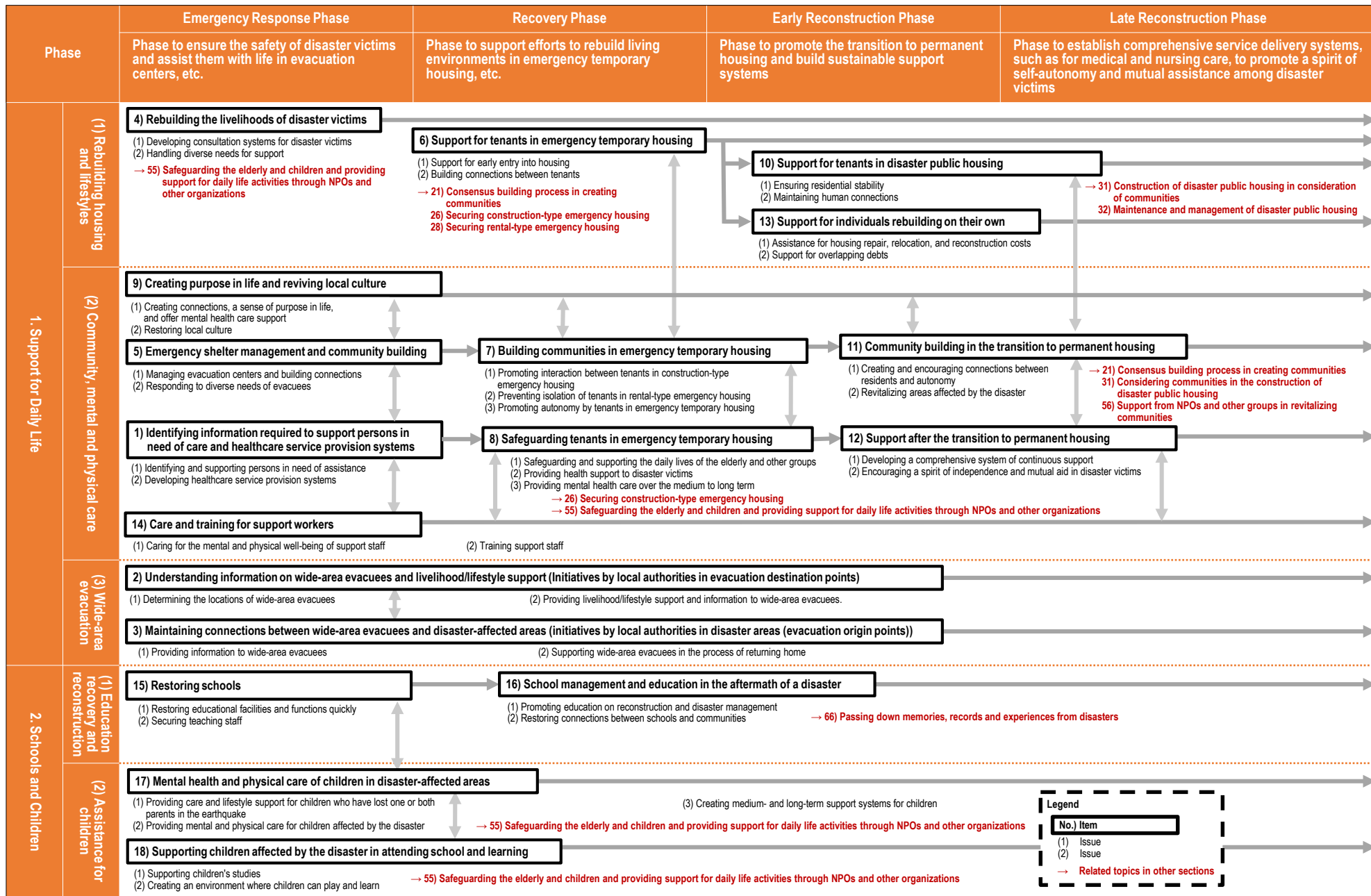
(*) Cases related to the nuclear disaster are not contained in this compilation, with the exception of those that have shared issues with the earthquake and tsunami disaster.

(*) Information contained in this compilation is listed as of fiscal 2020.

Structure

- Matrix table:
「This table illustrates the timing when issues occurred (emergency response phase, recovery phase, early reconstruction phase, late reconstruction phase) and the correlation between each issue in each of the following areas: Support for disaster victims, Reconstruction efforts for housing and communities, Revival of industries and livelihoods, and Collaboration and posterity.
- Text:
The text includes reports that describe the situation and activities carried out over the process of reconstruction from the Great East Japan Earthquake, as well as the lessons learned and know-how gained from these experiences.
- Individual case studies:
This section introduces individual and detailed information on the initiatives introduced in the text.

Part I: Support for Disaster Victims: Matrix Table



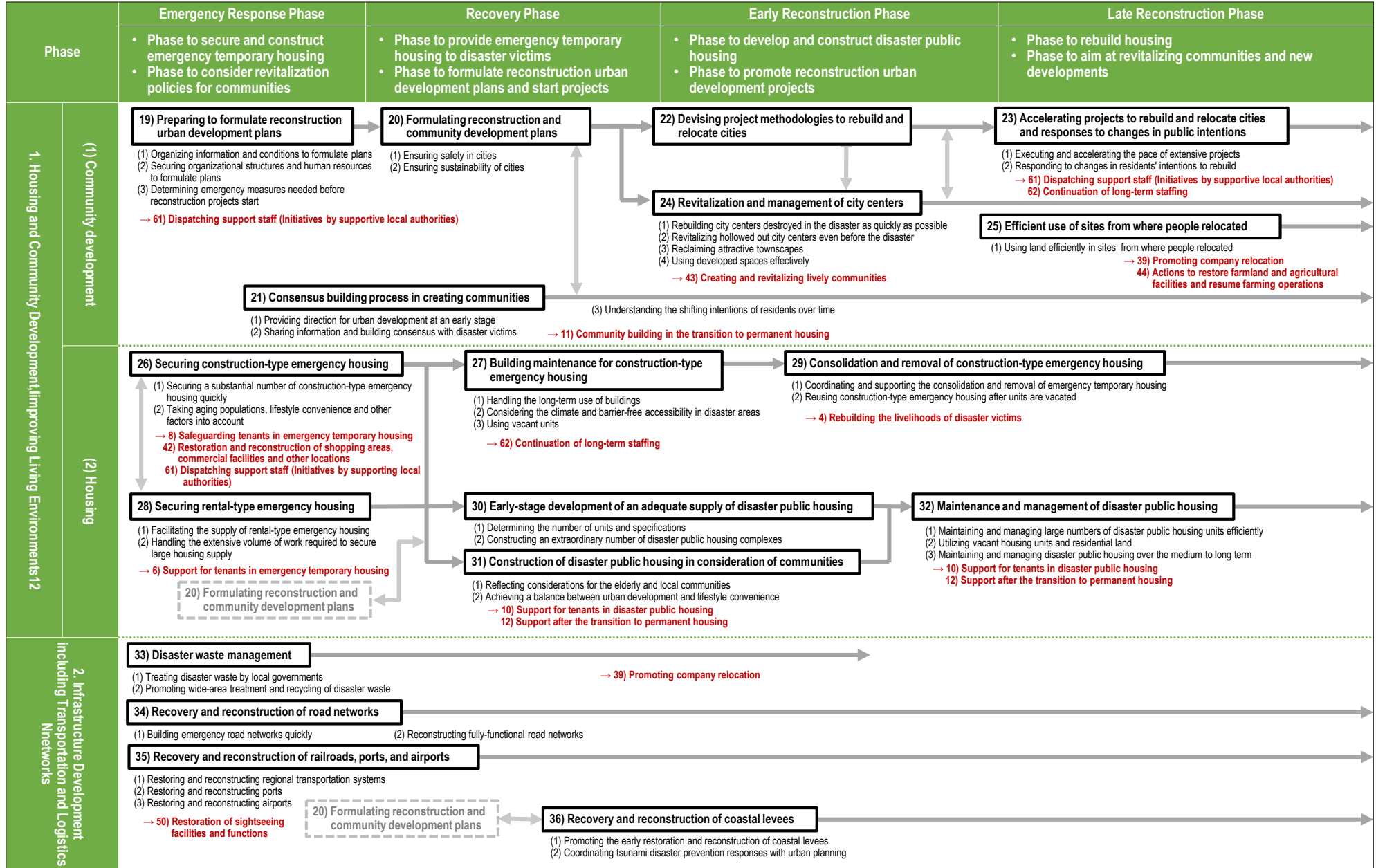
Legend

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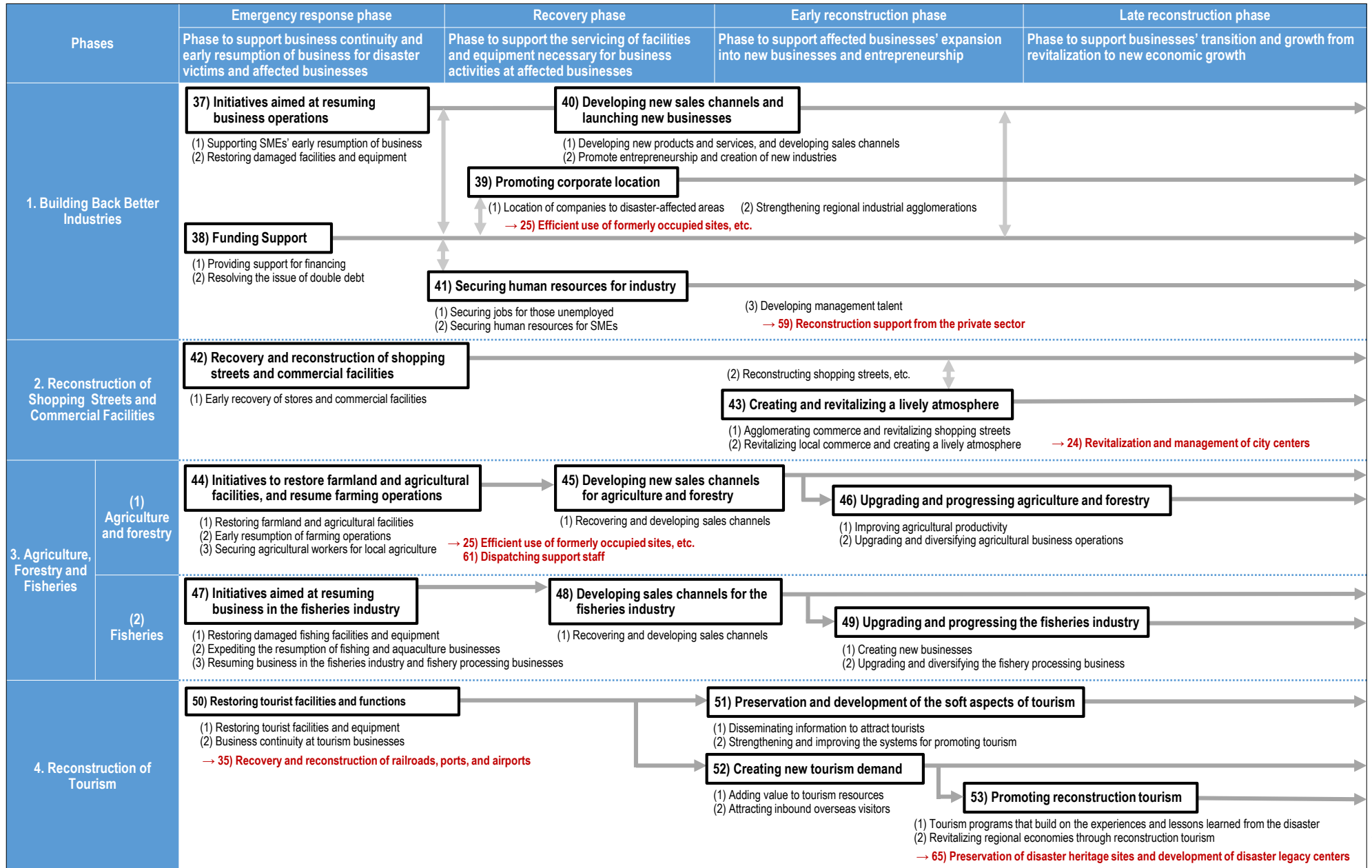
(1) Issue
(2) Issue

→ Related topics in other sections

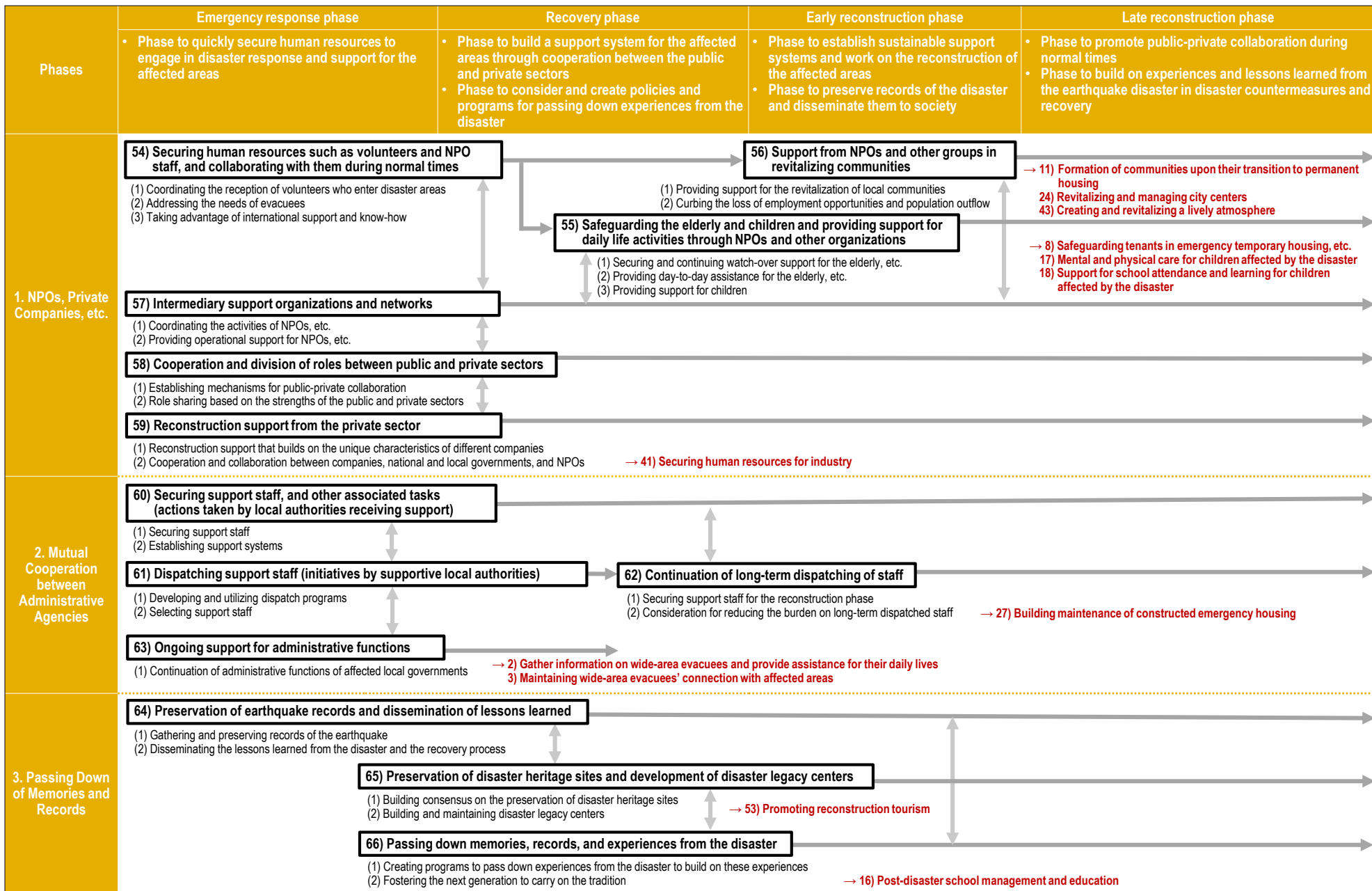
Part II: Reconstruction of Homes & Cities: Matrix Table



Part III: Revitalization of Industries and Livelihoods Matrix Table



Part IV: Collaboration and Posterity Matrix Table



1) Identifying information about persons requiring special care and healthcare service provision systems

- [Issues] (1) How to identify and support housebound victims and other persons requiring special care.
(2) How to develop healthcare service provision systems.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Sharing registry information to conduct door-to-door visits to disaster victims forced to live as evacuees in their homes** (Issue 1)
The local authority and organizations for persons with disabilities in Minamisoma City, Fukushima Prefecture shared information registered in “disability certificates” and made door-to-door visits to about 590 persons with disabilities.
- **Establishment of welfare evacuation shelters** (Issue 1)
A maximum of 152 welfare evacuation shelters were opened in the aftermath of the Great East Japan Earthquake. However, many people requiring special care were forced to take shelter in their own homes because of an insufficient number of welfare shelters.
- **Building healthcare and medical support networks** (Issue 2)
Iwate Prefecture established the “Iwate Disaster Medical Support Network,” which included Iwate Medical University, Iwate Medical Association, Japanese Red Cross Society, National Hospital Organization and Iwate Prefecture.
- **Shift from emergency aid to long-term recovery and reconstruction support** (Issue 2)
The Japanese Association of Neuro-Psychiatric Clinics established Disaster Mental Care Network Miyagi and opened “Karakoro Station” in front of JR Ishinomaki Station.

[Lessons learned and know-how gained]

- (1) Establish support systems for persons requiring special care in collaboration with stakeholders in ordinary times
 - Municipalities should create lists of persons requiring assistance to evacuate, review local disaster management plans and sort out the relationship with personal information protection ordinances and regulations so that the information in these registries can be shared with related organizations even in normal times.
 - Municipalities will work with community and other local associations, medical and welfare-related groups and others to determine the locations of persons requiring special care who have evacuated to sites outside of evacuation centers and what, if any, support is required.
 - Municipalities, facility staff and support groups should consider designating and establishing operational systems for welfare evacuation centers even in normal times and conduct trainings so that the intake process at these shelters is smooth for persons requiring special care.
- (2) Establish systems to receive teams providing aid from outside disaster areas and to coordinate the location of activities
 - Disaster medical care coordinators should be assigned to prefectural headquarters and in each region.
 - Systems should be place that allow teams to work together to support disaster victims by sharing information through regular meetings and other activities in order to ensure that activities of teams providing aid continue through local healthcare and other related organizations.
 - Local authorities should consider outsourcing programs in order to allow support teams from outside the disaster areas to continue performing activities in the recovery phase and beyond.

2) Understanding information on wide-area evacuees and livelihood/lifestyle support (Initiatives by local authorities to where they evacuated)

- [Issues] (1) How to determine the locations of wide-area evacuees.
(2) How to provide livelihood/lifestyle support and information to wide-area evacuees.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Sharing information on evacuees through the National Evacuee Information System** (Issues 1 and 2)
The Ministry of Internal Affairs and Communications established the National Evacuee Information System, which allows evacuees to share their location and other information with the local authorities from where they evacuated through the municipality to where they evacuated.
- **Counseling services offered by local authorities and private organizations to where people evacuated** (Issue 2)
Yamagata Prefecture opened support offices for evacuees in the cities of Yonezawa and Yamagata to provide counseling services and information to wide-area evacuees.
Yamagata, Niigata and Fukushima prefectures are jointly implementing programs to improve the skills of counselors and encourage information sharing among these groups in order to enhance and continue to support the mental health care of wide-area evacuees.

[Lessons learned and know-how gained]

- (1) Prepare to take in wide-area evacuees even in normal times.
 - Start preparations for system management and operations (such as the National Evacuee Information System) that will allow authorities to determine the location and contact details of wide-area evacuees and to share information efficiently between local authorities from and to where they evacuated.
- (2) Encourage cooperation between local authorities and private organizations from and to where they evacuated in order to provide support to evacuees.
 - Put in place consultation and support systems for wide-area evacuees in the local authorities to where they evacuated, including the opening of consultation services and assignment of livelihood support counselors.
 - Build collaborative systems between local authorities and private organizations from and to where they evacuated through the implementation of joint programs to provide support that is aligned with the needs of wide-area evacuees.

3) Maintaining connections between wide-area evacuees and disaster-affected areas (initiatives by local authorities from where they evacuated)

- [Issues] (1) How to provide information to wide-area evacuees.
(2) How to support wide-area evacuees in the process of returning home.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Sharing the living conditions of wide-area evacuees and thoughts on reconstruction efforts in their hometowns in public relations publications** (Issue 1)
Namie Town in Fukushima Prefecture published the “*Namie-no-Kokoro Tsushin* (The Heart of Namie)” based on interviews with people in the town who had evacuated to and were living in different locations. The newsletter was used to share their thoughts on reconstruction efforts in the hometown and to promote support for the revival of livelihoods and reconstruction projects in the town.
- **Sharing information with wide-area evacuees through the use of information and communications technology (ICT)** (Issue 1)
Futaba Town in Fukushima Prefecture operates the ICT Kizuna Support System and distributes data terminals to households that have been forced to evacuate to other places of Japan that equipped with functions for viewing administrative information and interacting with other users.
- **Establishment of livelihood reconstruction support centers that offer direct counseling services in locations around Japan to where people evacuated** (Issue 2)
Fukushima Prefecture established livelihood reconstruction support centers in 26 locations around Japan. NPOs and other organizations are contracted by the prefecture to provide information to and provide counseling services for wide-area evacuees at these centers. The Fukushima Cooperative Reconstruction Center set up counseling centers in Fukushima City for evacuees inside and outside the prefecture, and dispatches human resources and provides information in response to requests.

[Lessons learned and know-how gained]

- (1) Create a means for sharing information on living conditions of wide-area evacuees and reconstruction in disaster-affected areas.
 - Gain an understanding on the living conditions and thoughts of wide-area evacuees on reconstruction efforts and share this information in public relations publications, etc.
 - Use information and communications technology to provide information and as a tool for communication between disaster victims.
- (2) Set up support centers inside and outside prefectures for wide-area evacuees to help them rebuild their livelihoods and homes.
 - Offer long-term support with continuous efforts to gain insight into the intentions of evacuees about rebuilding their lives through careful and detailed consultation services and other methods.

4) Rebuilding the livelihoods of disaster victims

- [Issues] (1) How to develop consultation systems to help disaster victims rebuild their lives.
(2) How to handle the diverse support needs of households.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Establishment of consultation and support centers for disaster victims** (Issue 1)
Iwate Prefecture set up consultation and support centers for disaster victims. Advisory staff are assigned to the centers on a full-time basis, with lawyers and other specialists dispatched on a daily basis to handle a wide range of consultations.
- **Creation of Disaster Victim Registers** (Issue 2)
Iwate Prefecture promoted the introduction of the Disaster Victim Register System in municipalities affected by the disaster to assess the situations of individual households affected by the disaster and support conditions.
Stipulations on administrative tasks related to the preparation of Disaster Victim Registers by municipality heads were added with the revision of the Basic Act on Disaster Management in 2013, which enabled rapid responses for assistance.
- **Comprehensive support through disaster case management** (Issue 2)
Sendai City formulated the Program for Reconstructing the Livelihoods of Disaster Victims to draw up support plans for individual households affected by the disaster and to provide a combined support menu, depending on support needs.

[Lessons learned and know-how gained]

- (1) Set up general consultation services and develop consultation and support systems together with experts.
 - Set up general consultation services to provide one-stop responses to disaster victims' inquiries.
 - Provide comprehensive responses to a wide range of inquiries in collaboration with lawyers, financial planners and other experts.
- (2) Centrally manage information on disaster victims and manage cases according to challenges faced by households in rebuilding their lives.
 - Share information on disaster victims in local authorities through the development of Disaster Victim Registers to provide speedy and comprehensive assistance.
 - Formulate assistance plans for each household in line with daily life challenges and manage cases by combining different support projects through collaboration between organizations and local authorities normally engaged in providing support for persons in need.

5) Emergency shelter management and community building

- [Issues] (1) How to manage evacuation centers and create connections with evacuees.
(2) How to respond to the diverse need of evacuees in evacuation centers.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Formulating rules under the direction of residents** (Issue 1)
In Miyagi Prefecture, evacuees took part as members of emergency center steering committees at each evacuation center and were involved in making decisions on rules related to living environment and food supplies.
- **Establishing women-only spaces and support worker assignments, Setting up evacuation centers and interactive spaces for pregnant and nursing women and infants** (Issue 2)
A woman-only space was set up at Big Palette Fukushima, the largest shelter in Fukushima Prefecture. Women's organizations assigned staff there on a daily basis.
Iwate Prefecture formulated a model for drafting municipal evacuation center operation manuals based on experiences in the Great East Japan Earthquake and compiled information on points to consider in order to accommodate the needs of women and others.
Both Yamagata Prefecture, which took in evacuees from disaster-affected areas, and JA Yamagata Chuo Association worked together to open a shelter for pregnant and nursing women and families with infants. The shelter provided milk and diapers at no cost, and consultation services by midwives and public health nurses.
- **Providing information to foreign evacuees** (Issue 2)
Before the earthquake, Sendai City created and distributed a Multilingual Disaster Information Display Sheet (in nine languages) to designated evacuation centers. However, it was not utilized in the confusion of the disaster in some cases.

[Lessons learned and know-how gained]

- (1) Develop systems and manuals so that evacuation centers can be managed by residents.
 - Set up opportunities for municipal staff, voluntary disaster prevention organizations, residents' associations, and evacuation center facility managers to discuss the establishment and operation of shelters with a focus on the local community in preparation for disasters.
 - Create simple and understandable evacuation center operation manuals and conduct training programs and drills with the participation of local residents.
 - Assign specific roles to evacuees when a disaster occurs to allow them to play a voluntary and active role in the management of evacuation centers.
- (2) Build support systems for persons requiring special care in evacuation centers.
 - Secure private rooms and dedicated spaces for women, infants and children in evacuation centers and assign support staff.
 - Give due consideration to providing foreign nationals with information that is easy to understand, such as through the use of Multilingual Disaster Information Display Sheets.

6) Support for tenants in emergency temporary housing

- [Issues] (1) How to support early moving into emergency temporary housing.
(2) How to encourage connections between tenants in emergency temporary housing.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Sharing information through centralized telephone counseling services on housing and posted notices at evacuation centers** (Issue 1)
Iwate Prefecture set up the “Housing Hotline” (open also on weekends and public holidays) to provide advisory services on taking up residence in emergency temporary and prefectural housing.
In light of the lessons learned from the Great East Japan Earthquake, Iwate Prefecture also established a program to dispatch housing advisors in the event of a disaster, sending specialized consultants.
- **Cooperation between prefectures and municipalities on administrative procedures for occupancy in construction-type emergency housing** (Issue 1)
Iwate Prefecture drew up diagrams outlining the flow of the process from the start of construction to occupancy, which were disseminated to municipalities to ensure that move-in procedures could be completed as soon as possible.
- **Selecting tenants taking community building and individual circumstances into account** (Issue 2)
In Miyako City, Iwate Prefecture, listened to the hopes of all the disaster victims and as much care as possible was taken to allow them to move in according to their previous neighborhood areas, adopting the principles of “communities together,” “proximity to disaster areas,” “social mix (generational mix),” and “school commutes.”
Although rental-type emergency housing was efficient as a method of achieving occupancy at an early stage, it posed a challenge in maintaining of communities because tenants were spread out over a wider area.

[Lessons learned and know-how gained]

- (1) Create centralized consultation services and service coordination systems for the development of emergency temporary housing between prefectures and municipalities.
 - Set up centralized consultation services to allow local authorities to provide information on available emergency temporary housing options and to take consultation inquiries and applications from prospective tenants to support the smooth transition of disaster victims into housing. Consider methods of disseminating information in advance, as means of communication are limited in the event of a disaster.
 - Set up a coordination system between prefectures that will be providing emergency temporary housing and the municipalities that will be taking care of occupancy procedures to ensure smooth communication on completion dates and key handovers, other.
- (2) Create connections between tenants through district-based occupancy and mixing together a diverse range of households.
 - Care should be taken by local authorities to ensure that residents can move in together with members from their previous districts to the extent possible.
 - Encourage a sense of mutual support and interaction between tenants by promoting occupancy by a diverse range of households in the same construction-type emergency housing complexes, in addition to households that include pregnant and nursing mothers, the elderly, persons with disabilities and other people requiring special care.

7) Building communities in emergency temporary housing

- [Issues] (1) How to promote interaction (and prevent isolation) between tenants in construction-type emergency housing.
(2) How to prevent isolation of tenants in rental-type emergency housing.
(3) How to promote autonomy by tenants in emergency temporary housing.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Encourage interaction between residents through the application of housing maps** (Issue 1, 3)
In Minamisanriku Town, Miyagi Prefecture, the Fukkou Minasan-kai (All-Reconstruction Association) was set up by tenants in construction-type emergency housing and town volunteers. The association created and distributed housing maps and organized activities with residents' associations, such as tea parties and Reconstruction Terakoya events to find out the latest information on reconstruction efforts, which helped promote interaction and encourage community building between residents.
- **Establishment of meeting spaces for residents from original communities to gather** (Issues 1, 3)
Residents' associations in the Nebama district of Kamaishi City, Iwate Prefecture set up meeting spaces in areas where evacuees originally lived to provide opportunities for residents to formulate their ideas as a district. This helped in maintaining personal connections between residents who were dispersed around emergency temporary housing in different parts of the city.
- **Supporting interaction and exchange between tenants in rental-type emergency housing** (Issues 2, 3)
In Tomioka Town, Fukushima Prefecture, information and financial support was provided to groups registered as Tomioka Town Community Development Organizations.

[Lessons learned and know-how gained]

- (1) Create opportunities for tenants in construction-type emergency housing to meet and collaborate.
 - Create housing maps to ensure that tenants know their neighbors in other apartments.
 - Create opportunities for tenants to interact with one another, such as tea ceremony parties and planting activities, etc.
 - In the event that residents from the same neighborhood have moved into different temporary housing, create opportunities for residents from the original communities to get together and promote interaction between them by providing consultation services on housing reconstruction, for example.
- (2) Support the development of connections between tenants in rental-type emergency housing.
 - Provide salon-type spaces for residents in rental-type emergency housing to gather and maintain interactions. Provide support for residents to continue activities through financial assistance and cooperation with publicity.
- (3) Create a system of coordination between residents' associations in emergency temporary housing, government bodies, and support organizations.
 - Invigorate the activities of residents' associations by sharing challenges between various residents' associations, government bodies and support organizations, such as preventing residents from becoming isolated and building systems to work together to address challenges.

8) Safeguarding tenants in emergency temporary housing

- [Issues]
- (1) How to safeguard and support the daily lives of the elderly and other groups.
 - (2) How to support the health of disaster victims residing in emergency temporary housing.
 - (3) How to provide mental health care for disaster victims over the medium to long term.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Establishment of support centers for the elderly and other groups in emergency temporary housing areas** (Issue 1)
In the Hirata area of Kamaishi City, Iwate Prefecture, the Hirata Area Support Center was built within a construction-type emergency housing complex to look out for residents 24 hours a day.
- **Health surveys and support for tenants in emergency temporary housing** (Issue 2)
In Fukushima Prefecture, the Iwaki branch office of the Fukushima Soso Public Health and Welfare Office opened to coordinate activities between local authorities and support agencies in terms of assistance on health issues and for evacuees.
- **Opening clinics located near emergency temporary housing** (Issue 2)
The Ishinomaki Municipal Hospital Kaisei Interim Clinic opened in Ishinomaki City, Miyagi Prefecture within an emergency temporary housing complex, providing round-the-clock care, 365 days a year through home visits for medical and nursing care and visiting rehabilitation services.
- **Opening centers responsible for medium- to long-term mental health care** (Issue 3)
In Fukushima Prefecture, the Association for Mental Health and Welfare established the Fukushima Kokoro-no-Care Center, as part of commissioned work from the prefecture. The center provides counseling services for disaster victims, collects information on mental health care, and offers a toll-free counseling service called the Fukukoko Line.

[Lessons learned and know-how gained]

- (1) Establish centers and secure staff to support people requiring special care at emergency temporary housing and other facilities.
 - Establish support centers that can provide lifestyle assistance to the elderly and other people requiring special care that are integrated with emergency temporary housing.
 - Offer detailed safeguarding and support for tenants in emergency temporary housing in cooperation with specialists and residents' associations and by employing disaster victims as livelihood support counselors.
- (2) Encourage local authorities, social welfare councils, and specialist organizations to work together in providing health-related support.
 - Assess the health conditions of disaster victims through door-to-door visits to tenants in emergency temporary housing.
 - Sustain the physical and mental health of disaster victims by creating opportunities for interaction and providing support for health-related issues.
 - Secure access to medical care for tenants with the establishment
 - (3) Develop mental health and welfare systems in local areas that promote mental health care.
 - of clinics located near emergency temporary housing.
 - Establish centers (mental health centers, etc.) that can provide counselling services and raise awareness on mental health issues, train and dispatch staff, conduct fact-finding surveys on mental health and collect information, and build networks with related organizations that are engaged in mental health care and welfare services.

9) Creating purpose in life and reviving local culture

- [Issues] (1) How to help disaster victims make connections with others, find a sense of purpose and receive mental health care support.
- (2) How to revive local culture.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Creation of spaces for disaster victims to engage in agricultural work and creative activities** (Issue 1)
Physicians from the Iwate Prefectural Takata Hospital in Rikuzentakata City, Iwate Prefecture launched the “Hamarassen Farm Project” as part of the Reconstruction Agency’s Mental Recovery project, providing a space for residents to interact with one another, improving their health and creating a sense of purpose in life.
- **Revival and restoration of local traditional performing arts** (Issue 2)
The Nippon Foundation established the Traditional Arts Relief Fund (Festival Fund) to provide support to performing arts groups, shrines, and other organizations.
- **Restoration of local culture by repairing damaged cultural heritages** (Issue 2)
The National Institutes for Cultural Heritage and 13 cultural property- and art-related organizations implemented the Project on Salvaging Cultural Properties and Other Materials from the Great East Japan Earthquake (Cultural Property Rescue Project) to rescue and preserve a wide range of materials related to culture.
Miyagi Prefecture launched the Project to Restore Local Cultural Heritages in Miyagi Prefecture to preserve and utilize tangible and intangible cultural heritages damaged in the disaster.

[Lessons learned and know-how gained]

- (1) Create spaces for disaster victims to collaborate with others.
- Create opportunities for interaction between residents by encouraging them to share roles in agricultural work and engage in creative activities together, which can be connected to a sense of purpose in life and mental health care.
- (2) Revive the local culture by promoting the restoration of local traditional performing arts and cultural heritages.
- Promote the recovery of the region by supporting the revival of local traditional performing arts and festivals that provide emotional and mental support to disaster victims.
 - Revive local culture through the rescue and conservation of damaged cultural heritages.

10) Support for tenants in disaster public housing

- [Issues] (1) How to ensure residential stability for tenants in disaster public housing.
(2) How to maintain human connections formed in temporary emergency housing.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Relaxing occupancy requirements, Reduced rents** (Issue 1)

Disaster victims whose homes had to be demolished because they were damaged extensively or partially destroyed were eligible to move into disaster public housing. In addition, the Act on Special Zones for Reconstruction in Response to the Great East Japan Earthquake permitted income criteria requirements to be eased for a maximum of ten years depending on the type of certification.

As well as a special national program on reducing rents in response to the Great East Japan Earthquake, Onagawa Town, Minamisanriku Town, and Natori City in Miyagi Prefecture also offer their own rent reduction and waiver measures and subsidies for rent.

- **Maintaining community connections and considering individual circumstances of households in occupancy** (Issue 2)

Iwaki City, Fukushima Prefecture formulated the Iwaki City Tenant Selection Criteria for Disaster Public Housing, offering preferential treatment to households affected by the disaster living in the same area at the time of the earthquake that had expressed a desire to move into disaster public housing as a group, as well as households returning to their original locations. Points were also allocated in detail according to degree for households with elderly members, persons with disabilities or others in need of care, number of household members, and those with more than one child.

In Sendai City, Miyagi Prefecture, quotas were set for community occupancy, where five or more households from one community could apply together, and for group applications for two to four households.

Communities in emergency temporary housing in the Asutonagamachi area of Sendai City moved on to disaster public housing, developing into autonomous organizations.

[Lessons learned and know-how gained]

- (1) Relax eligibility requirements for occupancy in disaster public housing and ease rent burdens in line with local conditions.
 - Consider tenant eligibility for disaster public housing and rent reductions in line with local conditions in a flexible manner, in order to ensure stability in the daily lives of disaster victims.
 - Consider conducting simulations on long-term income and expenditures when considering setting rent. Note, however, that results can vary significantly depending on assumptions made, such as occupancy rates, management periods and other conditions. Take a broad view by dividing up conditions into several patterns.
- (2) Check that occupancy methods consider the continuity of communities and household conditions.
 - Set up a committee of academic experts and support workers to consider occupancy methods in disaster public housing.
 - Take the circumstances of each household, such as those with elderly family members and raising children, into account when recruiting tenants.
 - Occupancy methods should take the maintenance of community ties formed by disaster victims into account, such as permitting tenants to move into housing as a group.

11) Community building in the transition to permanent housing

- [Issues] (1) How to create and encourage connections between residents and autonomy in permanent housing.
 (2) How to revitalize areas affected by the disaster through exchange within and outside disaster areas.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Promote the autonomy of residents in housing complex developed for group relocation for disaster prevention** (Issue 1)
 In Higashimatsushima City, Miyagi Prefecture, foundations of community autonomy in the daily life worked effectively, leading to activities by the community development council (i.e., demarcation of households, ideas on revisions to construction plans, etc.) and by the Aoi District Association (i.e., facility maintenance and management, monitoring, etc.) which extends across residents' associations, in housing complexes through a project on promoting group relocation for disaster prevention.
- **Support for the establishment and management of residents' associations in disaster public housing** (Issue 1)
 In Rikuzentakata City, Iwate Prefecture, the Prefectural Tochigasawa Apartment Meeting, comprising members from Iwate Prefecture, Rikuzentakata City, Iwate University Organization of Revitalization for the Sanriku Region and Regional Development, and other organizations, provided support for the establishment and operation of a participatory residents' association.
- **Creating both an exchange population and relocated/permanent residents** (Issue 2)
 NPO SET, based in Hirota Town, Rikuzentakata City, Iwate Prefecture, developed a private stay program, a week-long, hands-on program to revitalize the local community for university students from around Japan and local residents, and a four-month relocation study program, which has created an exchange population of approximately 1,500 people annually and contributed to increasing the number of young people relocating to the area.

[Lessons learned and know-how gained]

- (1) Support the creation of systems, such as community development and residents' associations, that allow residents to take the initiative in discussions and decision-making processes on issues pertaining to daily life.
 - Create a climate in which residents can take the initiative in daily life to solve local challenges.
 - Establish a system of resident autonomy in disaster public housing by providing continuous, step-by-step support, ranging from meetings with tenants, to establishing and managing residents' associations and encouraging interactions with others in the local community.
- (2) Revitalize the local community by creating links between people and goods both inside and outside of areas affected by disasters.
 - Expand the circle of people in the region to revitalize disaster-affected areas by coordinating leaders and recipients of support in these locations and creating experiential programs to attract people from the outside.

12) Support after the transition to permanent housing

- [Issues] (1) How to develop a comprehensive system of continuous support for disaster victims.
(2) How to encourage a spirit of independence and mutual aid in disaster victims.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Lifestyle and support advisers monitoring residents in disaster public housing** (Issue 1)
In Kamaishi City, Iwate Prefecture, a total of about 80 support liaison officers looked after residents in disaster public housing and offered support through consultation services, utilizing prefectural emergency work creation program (These activities were also carried over to disaster public housing).
In Shichigahama Town, Miyagi Prefecture, information is shared among organizations engaged in activities to look after residents in disaster public housing. This information is reflected in activities, with meetings serving as a point of contact for communicating requests to governmental agencies.
- **Developing integrated community care systems with public involvement** (Issues 1, 2)
Ishinomaki City, Miyagi Prefecture formulated a basic plan on integrated community care with the participation of residents' associations in temporary housing. Visiting lectures are organized to encourage a sense of ownership in residents.
- **Organizing conferences on the future of the region and developing local community movements** (Issue 2)
Residents in Rikuzentakata City, Iwate Prefecture participate in discussions on all themes related to healthcare and welfare. A residents' movement was developed on the foundations of these discussions to organize health consultations, childcare counseling services, physical exercises, agricultural work and other activities at several "Hamakada spots" around the city.

[Lessons learned and know-how gained]

- (1) Include support for disaster victims in support services and systems for medical and nursing care in daily life.
 - Aim to develop a sustainable and effective menu of support by incorporating support services for disaster victims into programs and systems in daily life, such as in lifestyle assistance for the elderly and integrated community care systems, etc.
- (2) Promote monitoring and support services in the community with the participation of individuals impacted by disasters and diverse groups of supporters.
 - Involve disaster victims and supporters in forums and programs to discuss support systems in communities, share local challenges, and promote collaboration as leaders.

13) Support for individuals rebuilding on their own

- [Issues] (1) How to provide support for the cost of repairing, relocating, and rebuilding homes.
(2) How to support issues related to the problem of overlapping debts, including housing loans.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Support for relocating and reconstructing housing** (Issue 1)
When an area is designated as a disaster risk area, the following assistance was provided to disaster victims: (1) under a project on promoting group relocation for disaster prevention, the lease or transfer of residential land at higher elevations, subsidies for relocating housing, and (2) for disaster victims who relocated individually to land they had prepared on their own, subsidies for removal and relocation costs through a relocation project for at-risk housing located near cliffs and other hazardous locations.
- **Support for the cost of small-scale repairs for housing** (Issue 1)
Under the Disaster Relief Act, municipalities and other authorities requested contractors and businesses to perform minimal emergency repairs in damaged housing in areas essential to daily life, such as roofs, kitchens and toilets, for households that were unable to perform emergency repairs with their own resources. Municipalities paid the cost of repairs directly to contractors, with repairs performed on approximately 90,000 eligible households. Ishinomaki City, Miyagi Prefecture created a subsidy scheme for small-scale repairs.
- **Formulation of Guidelines for Individual Debtor Out-of-Court Workouts** (Issue 2)
Guidelines were formulated to help individual debtors with existing debts, such as housing loans, to defer or reduce their debts through an agreement between the creditor and debtor, instead of through bankruptcy procedures or other legal insolvency proceedings. A governing body for these guidelines provides assistance for the preparation of repayment plans and the submission of these plans to creditors.

[Lessons learned and know-how gained]

- (1) Be flexible in the application of support systems in line with how disaster victims want to rebuild their homes.
 - Utilize existing systems that are applicable to the repair, relocation and reconstruction of housing according to disaster victims' preferred methods of reconstruction.
 - Authorize local authorities to assess the housing reconstruction needs of residents and create required support programs, such as subsidies for small-scale repair costs.
- (2) Support private debt management of individual debtors through the development of guidelines and consultation services.
 - Inform individual debtors and financial institutions that function as creditors about the Guidelines on Debt Management for Victims of Natural Disasters.
 - Inform disaster victims of consultation services where they can obtain assistance from lawyers and other professionals when restructuring debts or formulating repayment plans

14) Care and training for support workers

- [Issues] (1) How to care for the mental and physical well-being of staff engaged in work to support disaster victims.
(2) How to train staff engaged in work to support disaster victims.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Mental health care for livelihood support counselors and social welfare workers** (Issue 1)
The Iwaki branch office of the Fukushima Soso Public Health and Welfare Office offers counseling services and provides advice on problems and concerns through group meetings.
- **Mental health care for high-risk individuals engaged in support activities** (Issue 1)
In Miyagi Prefecture, counseling services, mental health checks and regular health checks with their own staff are conducted for prefectural workers who provide support to disaster victims, police and other staff engaged in rescue and search operations, and school faculty and staff involved in managing evacuation centers. Advice is also provided to high-risk individuals and their departments.
- **Training programs for livelihood support counselors who are also victims of the disaster** (Issue 2)
Training programs were conducted in Ofunato City, Iwate Prefecture on listening skills, stress care, and other areas for livelihood support counselors and others who were mostly inexperienced. The Hyogo Institute for Traumatic Stress dispatched a team to the three prefectures in Tohoku and other areas to provide training and advice to physicians, public health nurses and other medical professionals.

[Lessons learned and know-how gained]

- (1) Put mental health measures in place for support workers in daily life.
- Governmental organizations responsible for formulating and implementing disaster responses should take systematic measures in daily life, such as providing educational and training opportunities on mental health.
 - Share information between prefectural mental care centers and mental health centers in daily life.
- (2) Offer training programs to build the skills and competencies of support workers in order to provide appropriate levels of assistance to disaster victims.
- Offer training programs for livelihood support counselors and social welfare workers who may have little experience in providing support to disaster victims, so that they can acquire the knowledge and skills required to perform their jobs and to improve the quality of support.
 - Encourage livelihood support counselors who have completed their period of employment to continue to participate in training programs so that they can work in positions that make use of their knowledge and experience, and train them as human resources that support local welfare activities.
 - Set up programs to support disaster victims within training programs for governmental workers, teaching staff and other professionals in daily life.

15) Restoring schools

- [Issues] (1) How to restore educational facilities and functions damaged in the disaster quickly.
(2) How to secure teaching staff to reopen schools.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Early reopening of schools through the use of other schools and temporary buildings** (Issue 1)
Many schools in Iwate Prefecture borrowed/rented out spaces from others schools and facilities and using school facilities that had closed. However, when renting out these spaces for extended periods of time, a number of problems came to light, as seen in the impact on the mental and physical health of children and students.
Otsuchi Junior High School was one of the first schools in the prefecture to construct temporary school buildings, moving from borrowed space in another junior high school to the new facilities at the end of September 2011.
- **Dispatching the EARTH Team to help with reopening schools** (Issue 1)
The Emergency And Rescue Team by school staff in Hyogo (EARTH), an organization of teachers and other staff established by the Hyogo Prefectural Board of Education following the Great Hanshin-Awaji Earthquake, sent members of the team to Miyagi Prefecture where they helped check on the safety of children, manage evacuation centers, provide advice on mental health care for children and students, and organize mental health care training programs for teachers and staff.
- **Developing teaching staff systems in public schools** (Issue 2)
Since fiscal 2011, the Ministry of Education, Culture, Sports, Science and Technology has put special additional measures into place in terms of the number of teachers and staff in order to provide special guidance and instruction for children and students affected by the disaster in support of their learning and mental health care.

[Lessons learned and know-how gained]

- (1) Restore school functions at an early stage through the use of other schools and facilities and the construction of temporary school buildings.
 - Open satellite schools to ensure ongoing learning opportunities for students who were forced to evacuate over a wide area.
 - Promote the reopening of schools at an early stage by renting out space in other schools and facilities, building temporary school buildings, and operating buses to/from schools.
- (2) Reopen schools by accepting help from school recovery support teams.
 - Use the professional expertise of teaching staff support teams to reopen schools.
- (3) Secure the required number of teaching staff for children and students impacted by the disaster.
 - Boards of education should strive to secure the required number of teaching staff in response to requests from the field in order to provide support for learning and mental health care for children and students affected by the disaster.

16) School management and education in the aftermath of a disaster

- [Issues] (1) How to promote education on reconstruction and disaster management following a disaster.
(2) How to restore connections between schools and communities.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Promoting education on disaster management and prevention in the three prefectures affected by the Great East Japan Earthquake** (Issues 1, 2)
“Disaster prevention officers” have been assigned to all public schools in Miyagi Prefecture. The “Miyagi Model” for education on disaster management and prevention has been developed using the supplementary reader, “Miraieno Kizuna (Link to the future)”.
The “Reconstruction Education in Iwate” program is implemented in 50 designated schools (elementary and junior high) in Iwate Prefecture.
- **Participating in reconstruction and community development and tsunami disaster prevention** (Issues 1, 2)
The machinery course at Iwate Prefectural Miyako Technical High School uses tsunami models to deliver lectures around the country and welcomes visitors on tours from overseas.
Students at Otsuchi High School worked on ideas for land readjustment and proposals for new community development policies, which led to the establishment of a Reconstruction Study Group (fixed-point observations with photographs of 180 locations in the town, exchanges with high school students outside the prefecture, etc.).

[Lessons learned and know-how gained]

- (1) Create educational programs and curriculums that utilize lessons learned from the disaster and local features to develop the human resources of the future in areas affected by the disaster.
 - Establish a system to promote education on disaster management and prevention through the creation of educational programs and curriculums that will serve as reference for schools and assigning teachers to be responsible for education on disaster management and prevention.
 - Provide practical and effective disaster prevention and recovery education in cooperation with local communities and related organizations.
- (2) Create opportunities for schools, which are at the heart of community development, to interact with the local community.
 - Offer learning opportunities to think about the community and local issues.
 - Promote the participation of youth in reconstruction, community development, and local disaster management and prevention activities and encourage interaction with local residents.

17) Mental health and physical care of children in disaster-affected areas

- [Issues]
- (1) How to provide care and lifestyle support for children who have lost one or both parents in the earthquake disaster.
 - (2) How to provide mental and physical care for children from areas affected by the disaster.
 - (3) How to create medium- and long-term support systems for children.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Individualized support for children orphaned and bereaved in the earthquake** (Issue 1)
Prefectural foster care association and Social Welfare Council in Iwate Prefecture launched the Relative Foster Case Support Program in fiscal 2011, which offers regular salon meetings and consultation services.
Ashinaga Tohoku Rainbow House organizes sleepovers and other events where children can talk about their feelings and lived experiences with one another.
- **Support for the mental health care of children** (Issue 2)
The Japan Child and Family Research Institute established the Central Children's Support Center of the Great East Japan Earthquake in October 2011. The center collected and analyzed information on the situations of children from disaster-affected areas, coordinated the dispatch of experts in line with actual situations on the ground in each prefecture, organized workshops, and provided consultation services for childcare workers and teachers.
- **Long-term support by local specialized organizations** (Issue 3)
The Iwate Children's Care Center, a prefecture-wide base, was established in Iwate Prefecture, where child psychiatrists and staff from multiple disciplines provide medical care and conduct case conferences.

[Lessons learned and know-how gained]

- (1) Provide support to children who have lost one or both parents in the earthquake in line with their individual situations and needs.
 - Develop support services according to the individual situations of children and provide continuous support to foster parents and guardians.
 - Set up spaces and facilities with children who have lost one or both parents in the earthquake where they can talk about their emotions and experiences.
- (2) Dispatch school counselors and other experts to offer mental and physical care for children affected by the disaster.
 - Dispatch school counselors, school social workers, guidance counselors/career advisors and other specialists to schools affected by the disaster in response to requests from these areas.
 - Assess the mental and physical conditions of pre-school children through infant and child health check-ups and childcare spaces, and provide complete care, including to guardians.
- (3) Provide long-term support that goes above and beyond a disaster response through local specialized organizations.
 - Create specialized networks to support the care of children's mental and emotional health.

18) Supporting children affected by the disaster in attending school and learning

[Issues] (1) How to support children attending school and learning.

(2) How to ensure that children are in an environment where they can learn and play.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Support for school attendance and learning for children in cases of financial difficulty** (Issues 1, 2)
Iwate Prefecture revised its ordinance to allow prefectural schools to waive entrance screening fees, entrance fees, correspondence course fees and boarding fees.
- **Learning support by volunteers, NPOs and others** (Issue 2)
School facilities in Rikuzentakata City, Iwate Prefecture were opened at night and former teachers, cram school instructors and other professionals provided support for learning (Learning Room, now Learning Time project).
NPO KATARIBA launched the Collaboration Schools as an after-school space for children in Onagawa Town (Miyagi Prefecture) and Otsuchi Town (Iwate Prefecture) since 2011.
- **Building play areas with playground equipment** (Issue 2)
NPO Playground of Hope launched a charity project called “Children x Play = Future” in 2012. This project helped rebuild local communities, encouraging interaction between both children and adults, with the use of large pieces of equipment to create playgrounds for children in the corners of parks or temporary housing about once a month.

[Lessons learned and know-how gained]

- (1) Provide assistance and support to children and students who face difficulties in attending school for financial reasons.
 - Provide needed support to children with financial difficulties to attend school.
 - Reduce financial burdens through public scholarship systems, in addition to reducing and waiving tuition and enrollment fees.
- (2) Support the creation of spaces to learn and play outside of school, such as after lessons and on holidays.
 - Use playground equipment to create spaces for children, in addition to providing support for learning and experiential opportunities.
 - Secure spaces for children to learn after school by utilizing the support services of NPOs and other third sector organizations.

19) Preparing to formulate reconstruction community development plans

- [Issues] (1) How to organize information, conditions, and other data to formulate plans.
(2) How to secure organizational structures and human resources required to formulate plans.
(3) How to determine the emergency measures needed before the start of reconstruction projects.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Assessing damage conditions and examining patterns for reconstruction through surveys directly supervised by the Ministry of Land, Infrastructure, Transport and Tourism** (Issues 1, 2)
The Ministry of Land, Infrastructure, Transport and Tourism conducted a joint survey with related ministries and agencies to examine methods for reconstructing urban areas affected by the tsunami in 62 municipalities in six prefectures. The survey covered tsunami inundation areas, damage to buildings and infrastructure, and status of evacuation of residents, and results were published online. In response to requests by municipalities, the Ministry also studied reconstruction patterns in urban areas affected by the disaster and specific reconstruction methods in urban areas and provided assistance for the formulation of reconstruction and project plans.
- **Planning work implemented with various specialized sectors** (Issue 2)
The reconstruction vision in the Kitakami district in Ishinomaki City, Miyagi Prefecture was formulated with the active support of universities and private organizations and reflected the intentions of residents affected by the disaster. Support staff from UR and other organizations were dispatched at an early stage in Noda Village, Iwate Prefecture, with technical expertise starting in the formulation stage for reconstruction and urban development plans.
- **Restrictions on buildings and other infrastructure based on the Building Standards Act and other laws and regulations** (Issue 3)
Miyagi Prefecture and Ishinomaki City designated building restriction zones in accordance with the Building Standards Act to prevent construction that would pose obstacles to planned development in urban areas. Iwate Prefecture requested municipalities to consider designating disaster risk zones, with calls made to municipalities to voluntarily refrain from building for a set period of time.

[Lessons learned and know-how gained]

- (1) Clarify processes, timetables and systems for formulating and executing plans as early as possible after a disaster.
- Clearly indicate the processes, timetables and systems that will be used for reconstruction in the future as early as possible after a disaster while assessing damage and organizing records of past reconstruction efforts.
 - In this context, surveys should be conducted in a timely and appropriate manner in order to determine the damage in urban areas and the status of disaster victims.



19) Preparing to formulate reconstruction and urban development plans

[Lessons learned and know-how gained]

(2) Ensure that systems are in place to formulate reconstruction plans.

- Establish systems within the local authority in order to formulate reconstruction plans in line with the policies in (1) above, and secure the human resources required, as necessary, including support staff from other local authorities, academic experts, consultants, and NPOs engaged in community and urban development.

(3) Examine building restrictions in urban areas in cases of severe damage.

- Building restrictions should be considered for a set period as an emergency measure to prevent construction that could hinder planned development in urban areas, if extensive damage is found in urban areas and a specified period of time is required to formulate reconstruction plans and launch projects. When considering building restrictions, allowances will be made for damage conditions, timetables for formulating reconstruction plans and the status of rebuilding by disaster victims themselves, since there are several methods that can be employed.

(4) Prepare reconstruction urban plans before a disaster occurs.

- In the immediate aftermath of a disaster, the above measures (1 to 3) will be implemented in a limited period of time and under restricted systems. Preparations should be made to develop reconstruction urban plans prior to a disaster, since disasters are expected to involve multiple challenges from the perspective of time and systems, and present situations where it is difficult to make decisions calmly (e.g., incorporate reconstruction systems, procedures, and training drills in local disaster prevention plans; take action to prevent tsunami disasters based on the Act on Development of Areas Resilient to Tsunami Disasters.) Another effective method would be to incorporate activities to prepare for reconstruction in advance in the action plans of municipalities related to urban planning.
- Specific initiatives involved in the development of reconstruction urban plans before a disaster occurs include: the collection and organization of basic data on land use conditions, infrastructure development and other information required to formulate reconstruction plans; continuous updates and upgrades; and verification of systems for reconstruction that set out the roles and chains of command for stakeholders involved in reconstruction. Building cooperative and trusting relationships within local authorities, as well as with outside organizations, and establishing systems before a disaster occurs are also effective measures.
- Issues inherently found in community development emerge or accelerate in a disaster, so it would be effective to look ahead to the future when examining reconstruction urban planning by confronting changes in socioeconomic conditions, such as population decline and aging, before a disaster occurs.
- Reconstruction urban planning is based on the objectives in a municipality's comprehensive plan, which signals basic approaches to urban development before a disaster occurs, and urban structures for the future in urban development master plans. However, the direction of conventional urban development may need to be reconsidered if a large-scale disaster destroys urban areas and significantly impacts socioeconomic activities. To prepare for such a development, the direction of urban structures for reconstruction can be incorporated into municipal master plans, if needed, in light of damage conditions and public intentions.

20) Formulating reconstruction and community development plans

- [Issues] (1) How to ensure safety in cities in terms of planning.
(2) How to ensure sustainability in cities in terms of planning.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Comprehensive coordination between the national, prefectural and municipal governments** (Issue 1)
When formulating the reconstruction urban development plan in Otsuchi Town, Iwate Prefecture, overarching discussions were held that not only addressed the construction of coastal levees, but also touched upon land use inland, in coordination with the managers of coastal levees and other infrastructure.
- **Promotion of sustainable, compact community development** (Issue 2)
In Ofunato City, Iwate Prefecture, the level of the city was effectively raised with the reorganization of zoning for residential and industrial areas and the location of compact residential areas on the mountain side. Several districts in Iwanuma City, Miyagi Prefecture were consolidated and relocated, and spaces were provided to discuss how to maintain communities in evacuation shelters and emergency temporary housing and build consensus for group relocation. Ten villages affected by the disaster in Yamamoto Town, Miyagi Prefecture were merged and relocated to three new urban areas with the aim of creating a compact city.

[Lessons learned and know-how gained]

- (1) Develop plans based on cross-sectoral and comprehensive perspectives.
 - Create more compact cities and towns by consolidating and rebuilding several communities or rebuilding on land located next to existing areas. Transform the city/town into one with a sustainable urban structure by attracting urban functions, such as commerce, industry, medical care, and welfare, and by securing transportation functions that are compatible with urban development.
 - Share the future vision of sustainable urban development with stakeholders through a detailed review process with public participation before moving forward with this type of urban development.
- (2) Formulate plans with an appropriate scale and content based on future population decline and aging and that take timeframes into account.
 - Formulate plans that will ensure the sustainability of cities/towns by determining needs and demands in light of changes in socioeconomic conditions, such as population decline and aging, due to disasters.
 - In the immediate aftermath of the earthquake, there is a strong propensity to strive to develop reconstruction plans with almost zero risk so that no disasters will occur again. However, it is important to take a comprehensive approach to urban development that will reduce risk through a combination of intangible elements, such as the evacuation of residents and land use, rather than seeking to eliminate all risk through infrastructure alone.
 - Level raising and land development will be limited to the minimum required area, especially in the case of large-scale construction, as residents' intentions to rebuild may change over the course of the project.

21) Consensus building process in creating communities

- [Issues] (1) How to provide the direction for urban development at an early stage.
(2) How to share information and build consensus with various disaster victims.
(3) How to understand the shifting intentions of residents over time.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Diverse consensus building processes** (Issue 2)

Iwanuma City, Miyagi Prefecture organized a workshop in cooperation with a university to discuss group relocation to the Tamauranishi district from six coastal areas. Residents' opinions were reflected in urban development plans.

A community development council, formed with the involvement of local residents and businesses, was established in the Kesenuma City bay area in Miyagi Prefecture, to reach a consensus on the construction of a coastal levee that would achieve a balance between community safety and urban development.

- **Ongoing process to understand residents' intentions** (Issue 3)

Records of past opinion surveys in Miyako City, Iwate Prefecture were input into a database, which was then used to revise project plans in response to changes in intentions.

[Lessons learned and know-how gained]

- (1) Identify intentions and build consensus, taking timeframes for planning and rebuilding livelihoods into account.
 - There is a trade-off between speed and completely mature plans as time is required to formulate reconstruction plans after a large-scale disaster and for the lives of disaster victims to settle down. Move ahead with plans by taking into account the cycle of formulating government reconstruction plans and thinking about how to help disaster victims rebuild their livelihoods.
- (2) Early communication of messages from mayors and municipality leaders on reconstruction urban development.
 - Mayors and municipality leaders should first strongly communicate their fundamental ideas on reconstruction urban development as quickly as possible.
- (3) Provide information, taking into account the diverse group of residents, including evacuees spread out across a wide area.
 - Provision and dissemination of straightforward and comprehensible information by the government on reconstruction urban development that considers the diversity of residents, such as those living in rental-type emergency housing or dispersed over a wide area, persons with disabilities, foreign nationals, and other groups, through appropriate media.



21) Consensus building process in creating communities

[Lessons learned and know-how gained]

(4) Choose suitable consensus building techniques in line with local conditions and residents' needs.

- Choose consensus building techniques and processes that suit local conditions, in consideration of a variety of conditions, such as the scale of the local authority and disaster area, local features, existing experience with urban and community development, and presence of supporters from outside the region.
- Ascertain the intentions of residents through a variety of opportunities, such as briefing sessions, individual consultation meetings, and public workshops.
- Promote collaborative urban development with residents before a disaster occurs and build a relationship of trust.

(5) Continue to assess residents' intentions

- Continue to assess residents' intentions to rebuild as they will change over time.
- Compile and organize the status of intentions and opinions into a database broken down by individual and household units.

22) Devising project methodologies to rebuild and relocate cities

[Issue] (1) How to devise project methodologies for rebuilding and relocating communities.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Selection of project methodologies for reconstructing urban areas in alignment with local characteristics** (Issue 1)
Villages affected by the disaster were collectively relocated inland through a project on promoting group relocation for disaster prevention, while commercial facilities were established and public nursery schools were rebuilt. Ofunato City, Iwate Prefecture applied a reconstruction base development project in areas affected by the tsunami in conjunction with a land readjustment project to quickly establish a base in the city center.
- **Reconstruction in fishing villages** (Issue 1)
A reconstruction plan that did not include a coastal levee was selected for the fishing community in the Kerobe district of Kamaishi City, Iwate Prefecture. Fishery-related facilities, village roads and other infrastructure were constructed in the district's disaster risk areas through the application of a project to strengthen disaster management functions in fishery villages, and households affected by the disaster were relocated to higher elevations constructed through the project on promoting group relocation for disaster prevention.
- **Effective combinations of projects** (Issue 1)
Small coastal villages in Noda Village, Iwate Prefecture that were damaged in the disaster were relocated and rebuilt through a selection/combination of project methodologies, such as projects on promoting group relocation for disaster prevention and projects to strengthen disaster management functions in fishery villages, based on the residents' intentions to relocate to higher ground or rebuild on original sites in consideration of their livelihoods, and taking the cohesiveness of the communities into account.
Residences in areas in Ishinomaki City, Miyagi Prefecture near the coast that were extensively damaged by the tsunami were relocated inland through a project on promoting group relocation for disaster prevention, while areas that included the original sites were developed as industrialized urban areas through a land readjustment project.

[Lessons learned and know-how gained]

- (1) Select and plan project methodologies in line with the features of disaster areas and residents' intentions to rebuild.
- Select appropriate project methodologies based on urban structures, disaster conditions and residents' intentions (e.g., rebuilding at original locations, rebuilding outside of areas).
 - In some cases, it may be effective to develop multiple options for reconstruction, such as the combined use of multiple reconstruction urban development project methodologies, or by integrating the construction of disaster public housing with entire area urban development projects.
 - It may be effective to minimize project areas for land readjustment projects subject to land conversion (especially areas reclaimed by raising and filling where heavy investment is expected), in addition to promoting independent reconstruction through a combination of relocation projects for at-risk housing located near cliffs and other hazardous locations with acquisition-type projects, such as those promoting group relocation for disaster prevention and reconstruction base development projects in areas affected by the tsunami, to be implemented in phases by dividing up project areas and construction zones.

23) Accelerating projects to rebuild and relocate cities and responses to changes in public intentions

- [Issues] (1) How to execute extensive reconstruction community development projects at an accelerated pace.
(2) How to respond to changes in residents' intentions to rebuild since rebuilding and relocating communities can take time.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Measures to accelerate the pace of rebuilding housing and implementing reconstruction community development projects (Issue 1)**
At the national level, a variety of methods were compiled into programs to accelerate the pace of land acquisition processes, including methods to reduce the period required for court hearings on property management procedures, with advice provided local authorities in disaster-affected areas.
- **Creating visual for reconstruction community planning to develop a clear outlook for rebuilding homes (Issue 2)**
The national, prefectural and municipal governments have collaborated in creating "housing reconstruction progress sheets" and release plans indicating schedules for the supply of residential land and disaster public housing.
- **Review of project methodologies and plans in response to shifting intentions by residents on rebuilding (Issue 2)**
Housing complexes in land readjustment areas were scaled down based on changes in residents' intentions to rebuild.
Surveys on residents' intentions were conducted on an ongoing basis and in stages in Ofunato City, Iwate Prefecture, including immediately after the disaster, before projects were developed, when land was readjusted, and when housing lots were completed.

[Lessons learned and know-how gained]

- (1) Eliminate project bottlenecks and accelerate the pace of processes by expediting procedures and securing implementation systems.
 - Leverage the technical capabilities and workforce from the private sector and other specialized sectors through Construction Management (CM), Program Management Consulting (PMC), and Design Build (DB).
- (2) Create a visual for reconstruction community planning in order to develop a clear outlook for rebuilding homes.
 - If the project period for reconstruction is expected to be extended for a prolonged period due to extensive damage, an effective way to provide disaster victims with a clear outlook on rebuilding their homes would be to create a visual of goals and progress related to reconstruction projects for housing and urban development, as well as a future vision for the area.
- (3) Continuously assess residents' intentions and be flexible in reviewing projects in response to changes.
 - Projects should be flexible to allow them to be implemented in phases or reconfigured with a continuous understanding of the intentions of residents that are assumed will change even during the project implementation phase.
 - An effective way to handle unused land that may occur even after a project has been appropriately reviewed would be to engage in activities to match up land in cooperation with real estate agents and other professional groups.

24) Revitalization and management of city centers

- [Issues] (1) How to rebuild city centers destroyed in the disaster as quickly as possible.
(2) How to revitalize hollowed-out city centers even before the disaster.
(3) How to reclaim attractive townscapes.
(4) How to effectively use developed spaces.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Promoting city planning and development for reconstructing commercial facilities and other infrastructure** (Issue 1, 2)
Ishinomaki City, Miyagi Prefecture has formulated the “Ishinomaki Machinaka (City Center) Revitalization Plan” and promoted the creation of the Ishinomaki Genki Ichiba Marketplace and other lively centers of activity.
- **Reconstruction of devastated urban areas and creation of added value through area management** (Issues 1, 4)
Land/building ownership and use in Ofunato City, Iwate Prefecture was separated, which allowed businesses to quickly resume operations on leased land. The city signed an area management partnership agreement with Kyassen Ofunato Co., Ltd., a private company, which played a lead role in the selection of commercial lessees and development of other projects that add value to the area.

[Lessons learned and know-how gained]

- (1) Link the sustainable revitalization and management of city centers with spatial development and livelihoods.
 - Achieve the objective of sustainable urban development through area management, such as by separating the ownership and use of land/buildings, restarting business operations as soon as possible, and attracting tenants to meet consumer needs.
 - Share visions for the future by providing opportunities for the local government, residents, and businesses to consider linkages between spatial development and livelihoods in urban development master plans and site selection plans before a disaster occurs.
- (2) Effectively develop public facilities and other infrastructure that will be instrumental in the revitalization of city centers.
 - The redevelopment of public facilities serves as a valuable resource for revitalizing city centers. In order to effectively develop public facilities, consider the location, scale, and concentration of functions, in light of existing urban development plans and future population trends that have been examined from a medium- to long-term perspective.



24) Revitalization and management of city centers

[Lessons learned and know-how gained]

- (3) Create new hometown landscapes that will serve as a source of pride for residents.
 - Implement projects that consider the formation of landscapes, such as those to create attractive townscapes, not simply restoring or attracting commercial business functions.
 - Rebuild historical streetscapes and create landscapes that will pass on the memories of local areas to avoid disruptions to the continuity of local lifestyles and the history and culture of these areas.
- (4) Collaborate with stakeholders to implement activities for the effective use of land.
 - Take measures, such as land matching, in cooperation with private area management organizations and real estate businesses for land that must be used effectively. Similar activities are also practical for the effective use of idle land in urban areas.

25) Efficient use of sites from where people relocated

[Issue] (1) How to efficiently use land in sites from where people relocated under projects promoting group relocation for disaster prevention.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Development of systems for governmental initiatives** (Issue 1)
Ofunato City, Iwate Prefecture established a department dedicated to promoting land use at sites from where people relocated, etc.
- **Versatile use of sites from where people relocated, etc. based on needs and land conditions** (Issue 1)
In the Omagarihama district in Higashimatsushima City, business districts have been developed through land readjustment projects on sites from where people relocated, with companies engaged in the transportation, manufacturing and construction industries located there.
Iwanuma City, Miyagi Prefecture utilized the Comprehensive infrastructure development project for reconstruction of agricultural, mountain and fishing villages to develop large plots of land for farmland and agricultural facilities.
The Fukushima Robot Test Field (RTF) was developed in a disaster risk zone in Minamisoma City, Fukushima Prefecture as part of the Fukushima Innovation Coast Framework.
- **Promoting land use by the private sector through the provision of information on land, other** (Issue 1)
Miyako City, Iwate Prefecture has published “Land Charts” that indicate the status of infrastructure and legalities on the use of original relocation sites in the Akahama district, as well as privately owned land that can potentially be used in combination with original relocation sites.

[Lessons learned and know-how gained]

- (1) Consider versatile uses for sites from where people relocated, etc. according to potential and needs.
 - Examine policies for use and conservation based on the potential of sites from where people relocated and needs, under the premise that the area has been designated as a disaster hazard area, and promote new uses by organizing land and improving infrastructure, as needed.
 - All sites from where people relocated do not necessarily need to be utilized, so natural and extensive conservation should be considered as well.
- (2) Collaborate with stakeholders to effectively use land
 - Sites from where people relocated are publicly owned, meaning that government action should be taken first. Administrative systems should be developed, including the establishment of dedicated organizations within the city/town government.
 - In some cases, local communities have strong attachments to sites from where people relocated and other privately owned land as they initially resided there. Build consensus with local communities on land use policies.
 - If the land will be used for industrial purposes, information should be provided to companies. Likewise, community groups and NPOs are important players in terms of the development of land for community use and natural conservation, so cooperation should be encouraged with different stakeholders depending on land potential.

26) Securing construction-type emergency housing

- [Issues] (1) How to quickly secure a substantial number of construction-type emergency housing.
(2) How to take aging populations, lifestyle convenience and other factors into account.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Surveys on number of units required** (Issue 1)
The number of units required in Iwate Prefecture was reviewed several times in light of discussions with the Health and Welfare Department and interviews with municipalities about the number of tenant applications. The number of units required in Iwate Prefecture was determined at an earlier stage than in Miyagi and Fukushima prefectures, where the number of disaster victims for rental-type emergency housing was higher, requiring more time to determine the number of units needed.
- **Securing sites** (Issue 1)
No construction-type emergency housing was built in the Kerobe district of Kamaishi City, Iwate Prefecture in consideration of the order of priority with disaster public housing sites. When privately owned land was used, leasing fees were paid and property taxes were reduced or exempted. In Miyako City, Iwate Prefecture, a project to secure, maintain and improve regional public transportation networks was used to operate new bus routes for temporary housing located a certain distance to bus stops and to provide taxi services to and from bus stops.
- **Dispatching staff to support the development of construction-type emergency housing** (Issue 1)
The Ministry of Land, Infrastructure, Transport and Tourism dispatched resident staff to the Tohoku Regional Development Bureau and the three prefectures affected by the disaster immediately after. Twenty-seven government agencies and UR also dispatched staff to conduct surveys at construction sites.
- **Engaging the services of construction companies and building temporary wooden housing** (Issues 1, 2)
With the massive construction expected for construction-type emergency housing, requests were made to the parent organization of the Japan Prefabricated Construction Suppliers and Manufacturers Association, which had concluded disaster agreements prior. House builders were also involved in construction.
Iwate Prefecture lowered the requirements for open applications to encourage the participation of small- and medium-sized construction companies.
- **Reflecting aging populations, lifestyle convenience, and other factors in construction** (Issue 2)
Group home-type emergency housing with common dining halls and other facilities to encourage residents to cooperate with one another, and construction-type emergency housing with support centers for nursing care and other services were constructed.



26) Securing construction-type emergency housing

[Lessons learned and know-how gained]

- (1) Estimate the number of housing units required before a disaster occurs based on damage estimates.
 - Confirm appropriate methods(14) for calculating the number of construction-type emergency housing units to be built after a disaster occurs. Take the supply of rental-type emergency housing into account and create estimates (training) based on these assumptions.
 - Enlist the cooperation of construction departments and welfare departments, which will receive relief supplies, when calculating the number of housing units to be constructed. Assess needs through opinion surveys of disaster victims even after the number of units required has been estimated, and revise the number of units, as needed.
 - Inevitably, there will be a certain number of vacant units inside construction-type emergency housing (e.g., due to changing intentions). Therefore, the number of units required should be calculated after consulting with the national government on estimated vacancies in advance.
- (2) Take measures to secure land for construction in accordance with the estimated number of units needed.
 - Select publicly and privately owned land that can be used as construction sites before a disaster occurs, and examine how to coordinate with debris yards, reconstruction housing sites and other locations. Fees for leasing privately owned land should also be considered.
 - Consider collaboration with municipalities in surrounding areas if suitable sites cannot be found within the municipality.
 - If housing is expected to be constructed in areas with poor access to transportation, collaborate with private bus operators and local communities when considering the operation of new routes. Be flexible in responding to the shifting needs of communities by changing and increasing the number of service routes in response to requests from residents.
 - The use of school yards and other land for construction-type emergency temporary housing, which may interfere with the original intended use of the site, should be avoided as much as possible.
- (3) Take measures in advance for collaboration, such as agreements with construction contractors and organizations.
 - Set up agreements with construction contractors and local construction companies before a disaster occurs to exchange information and confirm materials supply and personnel for building construction-type emergency housing, in order to be prepared to respond in the event of a disaster.
- (4) Consider specifications for emergency temporary housing, taking into account aging populations and lifestyle convenience.
 - Take the different types of construction-type emergency housing that can be built into account, such as those that are barrier-free and provide community care, in consideration of aging populations, lifestyle convenience, and the climate at construction sites. Consider the type of construction-type emergency housing that is best for communities before a disaster occurs, taking these issues into account (e.g., construction speed, cost, equity among tenants).

27) Building maintenance for construction-type emergency housing

- [Issues] (1) How to handle the use of buildings in the long term.
(2) How to consider the climate and barrier-free accessibility in disaster areas, while also taking construction costs into account.
(3) How to use vacant units.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Repairs for use of construction-type emergency housing over the long term** (Issues 1, 2)
In Iwate Prefecture, the Iwate Prefectural Home Construction Center was commissioned to establish the Maintenance and Management Center for Emergency Temporary Housing to serve as a central point of contact for defects and requests for repairs.
A variety of actions were implemented to improve habitability primarily in prefabricated, construction-type emergency housing, including protective measures for heat and cold and barrier-free access. However, construction costs in Miyagi Prefecture soared to JPY 7.44 million per unit, up from the initial estimate of JPY 5.52 million, partly due to the influence of these efforts.
- **Effective use of vacant units** (Issue 3)
The Ministry of Health, Labour and Welfare approved the use of vacant units, as an exception in this disaster, as meeting and common spaces, and for the use of several units for multiple-member households, as well as lodging for support staff and volunteers from other municipalities in order to encourage their effective use.

[Lessons learned and know-how gained]

- (1) Consider long-term maintenance and management measures based on damage conditions.
 - Provide construction-type emergency housing based on damage conditions, while also proactively using rental-type emergency housing (approximately JPY 1.83 million per unit over a two-year period). Perform appropriate maintenance and management in the event that the prefectural governor or other authority grants permission to extend the period of emergency temporary housing in accordance with the provisions set out in the Act on Special Measures Concerning Specified Disasters.
- (2) Consider appropriate measures when vacancies are unavoidable.
 - Over time, if vacancies become unavoidable, properties may be discontinued after consulting with the national government and converted for another use. In some cases, permission was granted to use vacant units for households with large numbers of people, as dormitories for support staff from other local authorities, and for other purposes, as a special exception for the Great East Japan Earthquake (Note, however, that this may only be permitted as a special exception in the event of a large-scale disaster, such as the Great East Japan Earthquake.)

28) Securing rental-type emergency housing

- [Issues] (1) How to facilitate the supply of rental-type emergency housing using existing private rental housing.
(2) How to handle the extensive work required to secure large housing supply.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Supply of housing through the matching processes of local authorities and selection of properties by disaster victims** (Issue 1)
The matching process in Iwaki City, Fukushima did not function well initially due to duplicate lists provided by real estate organizations. However, 695 units were supplied through the tremendous efforts of local government staff, which included visits to contractors. According to a notice issued by the Ministry of Health, Labour and Welfare (August 30, 2011), contracts for properties signed by disaster victims were recognized as emergency temporary housing even after the fact, which made up a considerable number of properties used. However, the public was not adequately informed about the system, which resulted in confusion, with a number of complaints made to the prefectural government.
- **Concluding agreements to facilitate the use of private rental housing** (Issue 1)
The Ministry of Health, Labour and Welfare and the Ministry of Land, Infrastructure, Transport and Tourism released an interim summary report on sample agreements and requested prefectures to promote their conclusion.
- **Outsourcing the enormous volume of work related to occupancy in private rental housing** (Issue 2)
Miyagi Prefecture supplied the largest number of units in disaster areas (approximately 26,000). However, contracts had to be renegotiated each time between three parties (landlords, prefecture (lessees), and tenants) each time they were extended, so the prefecture outsourced payment services to banks and other external parties.

[Lessons learned and know-how gained]

- (1) Identify information on private rental housing that can be supplied as rental-type emergency housing.
 - Conclude agreements in advance with related organizations (e.g., real estate agencies and other related bodies).
- (2) Determine contract formats, occupancy periods, rent and other leasing terms with related organizations.
 - Consider matching processes by local governments and search procedures by disaster victims themselves in advance.
 - Set the terms and conditions of leases, including formats for three-party contracts between landlords (lessors), local authorities (lessees), and disaster victims (tenants), length of occupancy under lease agreements, and rent.
- (3) Consider mechanisms to efficiently handle the enormous volume of work related to contracts with landlords and tenants.
 - Consider the use of support staff to efficiently handle the considerable volume of paperwork involved in lease agreements, rent collection and leasing period extensions for private rental housing. If the volume of paperwork is too large, consider outsourcing, such as the use of call centers in related organizations, after consulting with related ministries and agencies.

29) Consolidation and removal of construction-type emergency housing

- [Issues] (1) How to coordinate and support the consolidation and removal of emergency temporary housing.
(2) How to determine ways to reuse construction-type emergency housing after units are vacated.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Multiple levels of support to resolve issues related to emergency temporary housing, plans for consolidating emergency temporary housing (Issue 1)**
In Iwate and Miyagi prefectures, multiple layers of support were provided in cooperation with experts, especially in terms of the removal of temporary housing complexes constructed on school grounds. This support included surveying tenants about their plans for rebuilding homes, support for moving into emergency public housing, and for employment. Lawsuits were filed in some cases where tenants did not vacate the units. There were also cases where the process did not go according to plan, or where apartment complexes could not be removed since some households had not vacated the premises.
- **Reuse of emergency housing after units are vacated (Issue 2)**
In some cases, materials were transferred free of charge to local authorities and companies upon request and used in interactive facilities in Fukushima Prefecture to encourage people to settle there.
Wooden construction-type emergency temporary housing in Fukushima Prefecture (48 units + meeting hall) that were transferred to Soja City, Okayama Prefecture following the torrential rains in western Japan in 2018 were well-received by residents.
In contrast, proposals were made to convert housing in Onagawa Town, Miyagi Prefecture for use as sports camp boarding facilities, but they were eventually demolished because the structural materials could not be used in permanent buildings.

[Lessons learned and know-how gained]

- (1) Minimize the need to consolidate housing units, and collaborate, consider, and consult at early stages in the process of consolidation.
 - Collaborate with social welfare councils, lawyers, and other specialists before a disaster occurs.
 - It is important to avoid using school grounds and other locations as sites for temporary housing complexes that cannot be used for extended periods of time as much as possible. If school yards and other such locations must be used, consider their use from a long-term perspective by anticipating removal at an early stage.
 - Discuss with residents as early as possible when the possibility for consolidation arises and request them to prepare.
- (2) Consider how housing complexes can be reused, such as by being converted into different facilities, either before demolition or after construction.
 - Temporary facilities, such as construction-type emergency housing and other components that no longer serve a purpose may be effectively used in a variety of ways. Examine the possibilities of reusing structures both in and outside the area before removal.

30) Early-stage development of an adequate supply of disaster public housing

- [Issues] (1) How to determine the number of units and specifications based on residents' intentions to move into disaster public housing.
- (2) How to construct an extraordinary number of public disaster housing complexes.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Repeat surveys on residents' intentions for the construction of disaster public housing** (Issue 1)
Many of the local authorities in disaster-affected areas carefully examined the number of units to be built and required specifications by conducting repeat surveys on victims' intentions to move into disaster public housing.
The Housing Bureau of the Ministry of Land, Infrastructure, Transport and Tourism analyzed the results of the intention surveys as a measure to support the construction of disaster public housing in municipalities in affected areas.
- **Promoting construction through diverse partnerships** (Issue 2)
Roles for construction were divided up between prefectures and municipalities (e.g., large apartment complexes and small detached housing, evacuees from the nuclear power plant accident and victims of the earthquake and tsunami, etc.)
At the request of municipalities, UR was involved at all stages from design to construction in Miyagi Prefecture, with municipalities purchasing completed housing.
In some cases, municipalities ordered the construction of detached wooden disaster public housing in bulk to a newly established council of local architects, contractors, wood suppliers and other professionals to increase production capacity, and then purchased the completed disaster public housing.

[Lessons learned and know-how gained]

- (1) Conduct resident intention surveys carefully and repeatedly.
 - Determine the appropriate number of required housing units and specifications through the conduct of surveys on residents' intentions, which may change over time, before constructing disaster public housing.
- (2) Collaborate and share roles in construction with various organizations.
 - In cases where a large volume of housing must be developed, the municipal, prefectural and national governments, UR, and major/local private companies will share roles to meet needs. In this case, development methods will be considered according to local characteristics, such as organized development in urban areas, or construction in small units in villages.

31) Construction of disaster public housing in consideration of communities

- [Issues] (1) How to reflect considerations for the elderly and local communities when constructing disaster public housing.
 (2) How to achieve a balance between the construction of disaster public housing and urban development to ensure lifestyle convenience.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Innovative ideas in intention surveys for prospective tenants** (Issues 1, 2)
 Over the course of conducting frequent intention surveys by local authorities in disaster areas on people's plans to move into disaster public housing, interviews were conducted to ensure that consideration was given to the elderly and communities, and to ensure lifestyle conveniences.
- **Construction near original residences and at evacuation sites** (Issue 1)
 It was effective, from the perspective of securing land, to construct disaster public housing together on land formed through area-wide development projects, such as those on promoting group relocation for disaster prevention.
 However, in Iwate Prefecture, there were concerns about population outflow from the coastal areas, so only people who had already evacuated inland were eligible to move into public disaster housing in these areas.
- **Formation of compact cities, revitalization of urban areas affected by the disaster, and securing lifestyle conveniences** (Issue 2)
 In some cases, disaster public housing was actively planned in areas that had flooded during the earthquake after land readjustment projects had been carried out to build up the land, with the aim of revitalizing original urban areas damaged by the disaster.
 In other cases, disaster public housing was built in suburban areas because existing urban areas could not be used right away due to construction-type emergency housing and construction work to build up the area.
- **Innovative ideas on residential units and buildings** (Issues 1, 2)
 Living access-type buildings were designed to create opportunities for mutual protection and greetings, with indoor corridors connecting the units and offices for counseling/livelihood support assistants attached.

[Lessons learned and know-how gained]

- (1) Consider measures to watch over the elderly and create communities in consultation with stakeholders.
 - Before constructing disaster public housing, carefully conduct intention surveys in order to ensure that considerations for the elderly and communities are reflected in plans.
 - With smaller housing complexes, it will be easier to build disaster public housing close to original residential areas and keep the local community together.
 - Innovate ways to watch over senior citizens and create communities in plans for residential units and buildings. Consider plans for more user-friendly housing units and buildings after discussing how to design spaces that are easy to use with businesses, departments in charge of services, such as monitoring, and with prospective tenants.
- (2) Construct disaster public housing after examining urban development policies for the entire region.
 - Strategically set out locations, layout plans, building plans, structures, and other elements for disaster public housing after considering policies for urban development over the medium to long term, such as the formation of compact cities and revitalization of urban areas affected by disasters.
 - Consider land use in advance, including coordinating sites with other purposes, such as construction-type emergency housing.
 - Incorporate tsunami evacuation measures when constructing disaster public housing in tsunami inundation areas.

32) Maintenance and management of disaster public housing

- [Issues] (1) How to efficiently maintain and manage large numbers of disaster public housing.
(2) How to utilize vacant housing units and sites.
(3) How to maintain and manage disaster public housing over the medium to long term.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Outsourcing and streamlining administrative work** (Issue 1)
When unable to manage operations directly, the municipalities in Miyagi Prefecture affected by the disaster outsourced management operations to the Miyagi Housing Supply Public Corporation, which was responsible for managing prefectural housing. At that time, eligibility requirements for tenants varied between municipalities, prompting the need for coordination between cities, towns, the Miyagi Housing Supply Public Corporation and the prefecture so that administrative work could be standardized for managing occupancy.
- **Utilization of vacant housing units and sites** (Issue 2)
When vacant units became available, municipalities in disaster-affected areas in Miyagi Prefecture recruited additional tenants, relaxed requirements for the number of tenants to address mismatches in room types, and accepted tenants other than disaster victims (U-turn, I-turn, J-turn). Vacant sites were utilized as parks, squares and other purposes, or sold as general residential land.
- **Sale of disaster public housing** (Issue 3)
The Act on Special Zones for Reconstruction in Response to the Great East Japan Earthquake made it possible to accelerate the usual timing for the sale of disaster public housing, in order to reduce the burden of managing disaster public housing in the future. Soma City, Fukushima Prefecture sold wooden, detached disaster public housing in 2018 and use the proceeds from the sale for the maintenance and management of municipal housing.

[Lessons learned and know-how gained]

- (1) Standardize and clarify management tasks for outsourcing and the division of roles.
 - Outsourcing work is also effective in handling the high volume and diverse management tasks involved with disaster public housing. If a number of stakeholders are involved, clarify the division of roles and procedures between residents, managers, construction contractors, and other parties. Consideration should also be given to developing a collection of case studies on potential responses at this time.
- (2) Relax occupancy requirements and target persons other than those affected by the disaster if vacant units or sites occur.
 - If vacant units or sites occur in disaster public housing, consider additional recruitment of potential tenants, easing occupancy requirements, public use, and opening up housing to applicants other than disaster victims. Take the needs of the community for public housing into account.
- (3) Perform maintenance and management over the medium to long term with a view to utilizing systems to sell off land and dismantle buildings.
 - Efficiently perform maintenance and management over the medium to long term by promoting planned repairs through the formulation of plans to extend service life and the reduction of maintenance and management costs by selling unwanted assets.
 - Consider more economically efficient management approaches by estimating future income and expenditures based on statistical data and other information.

33) Disaster waste management

- [Issues] (1) How local authorities treat disaster waste.
(2) How to promote wide-area treatment and recycling of disaster waste.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Formulation of Guidelines (Master Plan) for Disaster Waste Management after the Great East Japan Earthquake, Ministry of the Environment** (Issue 1, 2)
The Ministry of the Environment formulated the Guidelines (Master Plan) for Disaster Waste Management after the Great East Japan Earthquake with an objective of treating disaster waste by March 2014 as quickly as possible. Local authorities in affected areas formulated action plans for disposal of disaster waste based on these guidelines.
- **Wide-area disposal in cooperation with local authorities** (Issue 2)
Wide-area disposal of waste was carried out in cooperation with local authorities that had available capacity, since local governments in affected areas lacked sufficient disposal facilities.
- **Reuse of disaster waste in public works** (Issues 1, 2)
The Ministry of the Environment launched a liaison committee with the Ministry of Land, Infrastructure, Transport and Tourism and the Ministry of Agriculture, Forestry and Fisheries to request cooperation in preparing lists of materials needed for restoration work and to provide a matching list to departments in charge of waste disposal. In total, 81% of disaster waste and 99% of tsunami deposits were reused.
- **Recycling of disaster waste** (Issue 1, 2)
Taiheiyo Cement Corporation's Ofunato Plant processed disaster waste into cement resources.

[Lessons learned and know-how gained]

- (1) Formulate disaster waste management plans in each local authority before a disaster occurs.
 - Prepare to secure land for temporary storage sites to remove and dispose of disaster waste.
 - Talk with relevant government agencies and companies about how to proceed with the disposal process for disaster waste.
- (2) Consider the development of a wide-area disposal system to prepare for a large-scale disaster.
 - A regional block council, set up and led by a regional environment office, should formulate specific action plans with concerned parties, in order to establish a wide-area system for the disposal of disaster waste.
 - Conduct joint training drills at the regional block level before a disaster occurs so that appropriate responses can be taken in the event of a disaster. The Ministry of the Environment manages the D.Waste-Net (Disaster Waste Treatment Support Network), which consists of experts in the field of disaster waste management, to record and verify responses to different disasters in relation to disaster waste, pass on knowledge, and provide quick support in the event of a disaster. The network collaborates with businesses, experts, research institutes and others through the exchange of information among all parties involved.

34) Recovery and reconstruction of road networks

- [Issues] (1) How to quickly build emergency road networks immediately after a disaster.
(2) How to efficiently construct fully functional road networks by taking different perspectives into account.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Recovery and reconstruction of roads (Emergency response)** (Issues 1, 2)
Starting one day after the earthquake, the national government worked together with local construction companies, Japan's Ground Self-Defense Force, police and other groups to clear roads of debris to ensure they were wide enough for ambulances, police, the SDF and other emergency vehicles to pass through, based on an agreement concluded by the Tohoku Regional Development Bureau with local construction industry associations. In less than a week after the disaster, the vertical axis along the inland and coastal areas, and multiple horizontal lines connecting them had been cleared for use as access roads for relief supplies and aid.
- **Recovery and reconstruction of roads (Recovery and reconstruction)** (Issues 1, 2)
Road projects were developed and completed for reconstructed roads and reconstruction support roads, with some exceptions, within fiscal 2020, the reconstruction and revitalization period. The Sanriku Coast Expressway, a reconstructed road, has been redesigned through a revised design concept at low cost and with enhanced functions to support people's livelihoods and protect lives. Roads are also being developed in conjunction with urban development, including securing access to areas that have been relocated to higher ground through a project on promoting group location for disaster prevention.

[Lessons learned and know-how gained]

- (1) Develop systems to ensure quick recovery based on diverse partnerships.
 - Develop a collaborative system before a disaster occurs with related organizations to ensure emergency responses and recovery for road networks, as it will be necessary to collaborate in a number of different ways, including securing routes immediately after a disaster.
 - Road work should be done quickly during emergency response and recovery periods, but with an eye on the main restoration work ahead.
- (2) Aim to complete reconstruction roads as quickly as possible, taking different perspectives into consideration.
 - When roads being constructed will help in the reconstruction process, roads should be developed as quickly as possible, taking different perspectives into consideration, such as improving disaster prevention capabilities and use in urban development.

35) Recovery and reconstruction of railroads, ports, and airports

- [Issues] (1) Recovery and reconstruction of regional transportation systems, such as railways
(2) Recovery and reconstruction of ports
(3) Recovery and reconstruction of airports

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Recovery and reconstruction of railways** (Issue 1)
Railway and bus operators worked together to restore services by operating replacement bus services in areas with no service. The JR Kesenuma and Ofunato lines resumed operation in a short period of time at low cost with the application of the Bus Rapid Transit (BRT) system, achieving a high level of convenience with the new construction or relocation of stations and exercising flexibility in changing routes in line with reconstruction urban planning.
- **Recovery and reconstruction of ports and harbors** (Issue 2)
The Tohoku Regional Development Bureau and others issued a request to the Japan Dredging and Reclamation Engineering Association, with which agreements had been concluded in advance, to open sea routes. The Tohoku Regional Development Bureau and administrators at each port affected by the disaster established a council that included representation from local authorities and companies located at ports. Restoration and reconstruction work on levees and other infrastructure was carried out based on restoration and reconstruction policies and timetables developed by the council after examining how logistics functions could support industrial recovery.
- **Recovery and reconstruction of airports** (Issue 3)
The Ministry of Land, Infrastructure, Transport and Tourism's TEC-FORCE (emergency disaster response team) performed emergency drainage at Sendai Airport, which had been damaged by the tsunami, using drainage pump vehicles. The SDF and U.S. military removed debris, with some operations resuming on March 16. Commercial flights resumed on April 13. Restoration and reconstruction efforts at Sendai Airport included the restoration of damaged facilities and equipment, as well as improvements to earthquake resistance.

[Lessons learned and know-how gained]

- (1) Quickly implement emergency responses based on collaborative agreements developed with various organizations in advance.
 - Collaboration with private companies and local authorities is essential for prompt and accurate emergency aid for transportation and logistics networks and emergency restoration of port activities in the immediate days after a disaster. A collaborative system designed for this purpose should be created before a disaster occurs.
- (2) Promote the restoration and reconstruction of transportation networks with a view to the future of the region.
 - Reconstruction projects for transportation infrastructure must be implemented in accordance with local characteristics, while also taking sustainability into account. Restoring infrastructure back to its original form may not be the only option available, so it is necessary to consider innovative ideas, such as introducing BRT to restore railway operations, enhancing port functions, and applying the expertise of the private sector.

36) Recovery and reconstruction of coastal levees

- [Issues] (1) How to promote the early restoration and reconstruction of coastal levees.
 (2) How to coordinate tsunami disaster prevention responses with urban planning for the development of coastal levees.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Acting on the direct behalf of the government on recovery efforts in the southern coast of Sendai Bay** (Issue 1)
 The Tohoku Regional Development Bureau of the Ministry of Land, Infrastructure, Transport and Tourism acted as the agency for integrating disaster recovery efforts in response to an emergency request from the governor of Miyagi Prefecture.
- **Recovery and reconstruction of coastal levees based on discussions on urban development** (Issues 1, 2)
 As a result of integrating the restoration and reconstruction of coastal levees with urban development, the prefectural and municipal governments in the six prefectures affected by the earthquake revised changes to levees by lowering the heights below the designed tsunami level and changing locations, based on discussions with local communities.
- **Consideration of diverse perspectives** (Issue 2)
 A combination of flap-gate levees and raising the levees on the land-facing side secured views from local communities to the sea in the Kesenuma City bay area of Miyagi Prefecture.
 Public and commercial facilities have been integrated into a levee in the Yuriage district in Natori City, Miyagi Prefecture to create spaces for ocean dining.
 Levees designed with greenery and decorative stones were planned and constructed in Iwanuma City, Miyagi Prefecture and other cities, out of consideration for the landscape and other factors. In some cases, local residents are also involved in their maintenance, management and use, with innovative ideas that make these landscapes feel more familiar to communities.

[Lessons learned and know-how gained]

- (1) Envision the effective integration of infrastructure to protect coastal areas and reconstruction measures for urban areas before damage from a tsunami.
 - Envision reconstruction measures for urban areas to facilitate rapid restoration and reconstruction on the basis of disaster management and prevention measures for L1 and L2 tsunamis.
 - (*) L1 tsunamis: Occur more frequently than the largest class of tsunamis and cause significant damage, although heights are lower
 - L2 tsunamis: Largest class of tsunamis that occur infrequently, but cause extensive damage
- (2) Determine the height of coastal levees according to local conditions, even if water levels are designed for an L1 tsunami.
 - Develop coastal levees from the perspectives of securing views from local communities to the seas, considerations for the tourism industry, landscapes and natural environment, as well as safety, while building consensus with local residents.

37) Initiatives aimed at resuming business operations

- [Issues] (1) How to support the early resumption of business by SMEs.
(2) How to proceed with the restoration of damaged facilities and equipment.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Business continuity through emergency response efforts and production outsourcing (Issue [1])**

Oil Plant Natori Corporation in Natori City, Miyagi Prefecture had a business continuity plan (BCP)* in place, and when the tsunami hit, was able to minimize their damage by safely shutting down critical equipment at its plant, and instructing tanker truck drivers and other drivers to evacuate vehicles to inland locations. The company was able to continue its refining operations by transporting their waste oil to industry peers in Iwate and Yamagata prefectures.

- **Business resumption support through a network of industry support organizations (Issues [1] and [2])**

The Japan Chamber of Commerce and Industry (JCCI) implemented a Free Matching Support Project for Idle Machinery as a way to provide idle machinery and other assets in the possession of JCCI members nationwide to SMEs affected by the disaster, making a significant contribution to the quick resumption of business at these affected companies.

- **Support for the restoration of facilities and equipment through group subsidies (Issues [1] and [2])**

Minex Co., Ltd. in Kamaishi City, Iwate Prefecture, used group subsidies to build fertilizer production facilities, etc., and worked with raw material suppliers, etc., to establish a supply chain that would ensure the expeditious and stable supply of fertilizers, thereby contributing to the resumption of agriculture in tsunami affected regions through actions such as supplying fertilizers, etc., for salt removal measures.

[Lessons and Know-How Gained]

(1) Provide support through inter-company collaboration and industry support organizations to help affected companies continue and resume their businesses.

- Formulate a BCP in normal times and make arrangements for emergency response, including the outsourcing of production.
- Establish a support scheme at an early stage, including support from associations and experts, to enable the early resumption of business.
- Promote joint projects run by groups of businesses to enable early recovery of the economy and employment in affected regions.

(2) Provide support for securing sites for temporary factories, and introducing equipment.

- If a site for a temporary factory, etc., cannot be secured within a municipality, secure a site outside the municipality through inter-municipal cooperation.
- To restore equipment, make use of industry support organizations' networks and support measures for SME groups.

38) Funding Support

- [Issues] (1) How to support financing for affected businesses for reconstruction.
(2) How to solve the problem of overlapping debts, which is an obstacle to business recovery.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Expanding loan and credit guarantee programs (Issue [1])**
The national government established the "Emergency Credit Guarantee for Recovery from the Great East Japan Earthquake" to supplement the creditworthiness of SMEs and small businesses that lost real estate and other assets in the earthquake, contributing to their quick recovery and rebuilding.
- **Procuring funds by crowdfunding (Issue [1])**
Yagisawa Shoten Co., Ltd. of Rikuzentakata City, Iwate Prefecture raised funds by utilizing a hybrid investment and donation mechanism called the Securite Disaster Area Support Fund that was run by Music Securities Inc.
- **Maintaining and strengthening the financial functions in affected areas (Issue [1])**
After the conditions for government capital participation in regional financial institutions that faced the need to enhance their capital base were eased in the special provisions for earthquake disasters of June 2011, twelve financial institutions were injected with 231 billion yen in public funds by the end of 2012, thereby preserving and strengthening regional financial functions.
- **Establishment of the Industry Reconstruction Corporations and the Corporation for Revitalizing Earthquake-Affected Business (Issue [2])**
Six affected prefectures established Industrial Recovery Consultation Centers as one-stop consultation desks for solving the problem of double debt, and of these prefectures, five established Industry Reconstruction Corporations for conducting loan purchases to provide support such as loan purchases and assistance in formulating business recovery plans.
The government established the Corporation for Revitalizing Earthquake-Affected Business to provide support including loan purchases, debt guarantees, and debt relief.

[Lessons and Know-How Gained]

- (1) Provide expeditious and smooth cash flow support for affected businesses.
 - expeditiously establish strong loan and guarantee programs to enable the early recovery and reconstruction of affected businesses.
 - Businesses use crowdfunding to raise funds from a large pool of individuals.
 - Establish and appropriately manage a framework that preserves and strengthens the financial functions of regions.
- (2) The problem of overlapping debts incurred by affected companies that are expected to generate sufficient cash flow going forward should be addressed through the purchase of old debts and other avenues, as well as long-term business recovery plans.
 - Regional recovery support councils, etc., should work with financial institutions in normal times to provide support for business recovery.
 - In order to expeditiously resolve the problem of overlapping debts, systems and the like should be established if necessary to carry out case processing.

39) Promoting corporate location

- [Issues] (1) How to promote the location of companies to disaster-affected areas for sustainable growth.
(2) How to link companies newly locating in the region to the strengthening of regional industrial agglomerations.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Leveraging the region's locational environment to attract companies (Issue [1])**

BioChem Corporation, which manufactures bulk pharmaceuticals and other products from salmon milt, used the Tsunami Location Subsidy program to construct a new plant on a former site of the Disaster Prevention Collective Relocation Promotion Project located in Rikuzentakata City. The Sanriku coast is rich in salmon and other marine resources, and there is a concentration of fisheries processors near the construction site, making it an ideal location for companies that use marine resources.

- **Promoting the Research and Development, and New Industries Creation Center Initiative (Issues [1] and [2])**

In the Hamadori region of Fukushima Prefecture, the Fukushima Innovation Coast Initiative is being implemented as a national project that aims to build a new industrial foundation with a focus on six areas including decommissioning, robotics and drones, and medical care.

- **Agglomerating the automotive industry through a virtuous cycle between parts and machining companies, and assembling manufacturers (Issues [1] and [2]).**

In Miyagi Prefecture, the Miyagi Automotive Industry Development Council formulated the Miyagi Automobile Industry Promotion Plan to support the development of automobile production technologies and human resource development at SMEs, and also provided match-making services to match technologies and prototypes developed by these SMEs with suppliers.

[Lessons and Know-How Gained]

- (1) Promote full-scale industrial recovery by strategically agglomerating next-generation growth industries.
 - Promote industrial recovery by strategically agglomerating next-generation growth industries relating to such as robotics and medical equipment.
- (2) Support the strengthening and growth of industrial agglomeration in the region.
 - Provide support for attracting new companies and strengthening the production capacity of existing companies.
 - In attracting companies, the advantages of the region's natural environment, labor force, and industrial agglomeration should be emphasized, in addition to the availability of subsidy programs.
 - Support the development of a business environment, including technological development and human resource development, to enable local companies to newly enter key industries and to grow their business.

40) Developing new sales channels and launching new businesses

- [Issues] (1) How companies develop new products and services and develop new sales channels.
(2) How to promote entrepreneurship and new industry creation that will drive the economic growth of affected areas.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Creating new businesses based on experiences from the disaster (Issue [1])**
One Table, Inc., drawing on its experience from the disaster, developed "LIFE STOCK" a stockpile jelly product that can be stored for five and a half years after manufacture at room temperature, and is nutritionally balanced and rich in water content. Building on this technology for enabling food stockpiling, the company is currently working to create new businesses such as by developing health food and space food.
- **Developing new products through match-making with major corporations (Issue [1])**
Banzai Factory Co., Ltd. has relocated to an affected area and is working with universities and companies to develop high value-added products.
- **Local authorities supporting start-up companies that will drive economic growth in Tohoku (Issue [2])**
In January 2014, Sendai City founded the Sendai City Entrepreneurship Support Center "Assista" which provides support for entrepreneurs including advice on business plan development, seminars, and a networking salon.

[Lessons and Know-How Gained]

- (1) Launch new businesses and develop new products based on experiences from the disaster, and develop new sales channels.
 - Aim to identify issues based on experiences from the disaster and develop new sales channels by launching new businesses, etc.
- (2) Promote new product development, etc. through joint industry-academia research and collaboration with companies.
 - Companies collaborate with major companies and other organizations that are providing support for reconstruction to promote the development of new products that leverage their own technology.
 - With the aim of recovering sales channels lost in the earthquake disaster, companies are encouraged to utilize technologies owned by research institutes and other organizations to help solve problems they may be having with their own products.
- (3) Promote the creation and development of start-up companies through initiatives led by local governments.
 - Local authorities set forth policies to achieve further economic growth once recovery from the earthquake is achieved and provide strong support for entrepreneurs.
 - Local authorities collaborate with regional industry, universities, government, and financial institutions to form a unified team in providing support to startup companies that aim to grow through innovative business models.

41) Securing human resources for industry

- [Issues] (1) How to secure jobs for those unemployed due to the earthquake.
(2) How SMEs in the affected areas secure human resources.
(3) How to develop management personnel to achieve sustainable growth.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Providing emergency employment for unemployed persons through Cash for Work (Issue [1])**
Beginning in FY2012, The Ofunato City Fisheries Cooperative Association employed its own members through the Emergency Job Creation Program for debris removal tasks, thereby achieving both early recovery of their fishing ports and securing income for its members.
- **Attracting local human resources by developing comfortable work environments (Issues [1] and [2])**
Iwate Moriya Co., Ltd., an apparel company located in Kuji City, Iwate Prefecture, is focusing on training young people by actively hiring local high school students and having them participate in business meetings with clients to improve their skills. The company is also taking steps to improve its childcare leave and other systems to create a workplace environment where women can work for longer years.
- **Attracting new workers through image improvement (Issues [2] and [3])**
Fisherman Japan in Ishinomaki City, Miyagi Prefecture, carries out activities to attract new workers to the fishing industry, such as by communicating on its website the appeal of fishery as a profession and information on its internship program for young people.

[Lessons and Know-How Gained]

- (1) Provide jobs in restoration work to unemployed disaster victims to secure employment.
 - Provide unemployed disaster victims with jobs in restoration work based on the Cash for Work idea, thereby ensuring both the restoration of infrastructure, etc., and employment.
 - Provide matching support for job seekers and potential employers through Hello Work's employment support function.
- (2) Secure young people and women for employment by creating comfortable work environments and improving the image of industries.
 - Secure young people and women for employment by providing training for young people and creating work environments that women will be comfortable working in.
 - Carry out initiatives to significantly change the conventional image of industries that receive few employment applicants.
- (3) Through exchanges with innovative businesspersons, raise awareness to transform conventional ways of management.
 - Review management practices and promote management innovation through exchanges with businesspersons who lead industry.

42) Restoration and reconstruction of shopping streets and commercial facilities

[Issues] (1) How to enable stores and shopping streets to quickly resume their businesses.
(2) How to proceed with the reconstruction of shopping streets, etc.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Early recovery of commercial functions through the development of temporary stores and shopping streets (Issue [1])**
In the Taro district of Miyako City, Iwate Prefecture, a temporary shopping district, Taro-chan House, opened in September 2011 on a site adjacent to temporary housing, and became a community gathering place for disaster victims.
- **Strengthening local community functions through the development of commercial facilities that serve a central role in communities (Issues [1] and [2])**
In Otsuchi Town, Iwate Prefecture, the facility operator of the Seaside Town Mast shopping center secured funds to resume operations by forming a group of 30 merchants and making use of the group subsidy. When the shopping center reopened, its stores were designed in cooperation with local merchants to enhance the town's community functions.
- **Reconstructing local commerce through collaboration among shopping streets (Issues [1] and [2])**
In Minamisanriku, Miyagi Prefecture, businesses in the Shizugawa area organized the Minamisanriku Shopping Arcade and held the Fukko-Ichi (Recovery Markets) with support from national organization Bosai Asaichi Network. Based on this experience, the temporary Minamisanriku Sun Sun Shopping Village also currently organizes events and other functions for the enjoyment of everyone from local residents to tourists.

[Lessons and Know-How Gained]

- (1) Development of temporary stores and shopping streets is important for the early recovery of regional commercial functions.
 - Support communities and the livelihoods of disaster victims by developing temporary stores and shopping district adjacent to temporary housing.
 - Carefully design the placement of stores and parking areas according to the actual conditions found in communities.
- (2) Support shopping streets, etc., that are central to communities to restore local communities in the affected areas.
 - Provide financial support for the resumption of business in shopping streets, etc., that are central to these regions.
 - In reopening shopping streets, etc., that are central to communities, local community functions such as public facilities should be provided in addition to installing core stores and providing a variety of different store configurations.
- (3) Cooperation among shopping streets is key in promoting the recovery of local commerce.
 - Reconstruction events carried out in collaboration with other shopping streets lead to large-scale visitor traffic and drive the recovery of local commerce.
 - Collaboration among shopping streets create new models for driving the recovery of local commerce.

43) Creating and revitalizing a lively atmosphere

- [Issues] (1) How to promote commercial agglomeration and shopping street revitalization in city centers.
(2) How to promote the revitalization of local commerce and the creation of a lively atmosphere.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Ensuring the continuity of commercial facilities, etc. (Issue [1])**
Onagawa Mirai Sozo Co., Ltd., a community development company, separates the ownership of the commercial facility building from the use of retail space, and this results in a sustainable shopping district that enables disaster-affected businesses in the region to rebuild their businesses, and also attracts attractive shops from outside the region
- **Inducing investment in city centers through the effective location of public and commercial facilities (Issues [1] and [2])**
Kamaishi City, Iwate Prefecture, applied the Tsunami Reconstruction Base Development Project to develop a new urban area in the eastern part of the city, and as part of the project, new commercial functions were developed centering around disaster-recovery public housing, a civic hall, and a large commercial facility.
- **Attracting visitors and creating a lively atmosphere through area management (Issue [2])**
Kyassen Ofunato Co., Ltd., a community development company, develops shopping districts and, with dues it collects from commercial area tenants, carries out area management projects to make the district more attractive, such as conducting sales promotion events, community development projects, and landscape preservation.

[Lessons and Know-How Gained]

- (1) Develop commercial agglomerations and shopping streets in city centers in a planned manner.
 - Ensure tenant mobility by separating commercial property ownership from retail space use.
 - Employ attractive designs that attract customers while keeping costs low.
 - Seek expert advice to ensure the continuity of commercial facilities and stores run by disaster-affected businesses.
- (2) Implement area management with community development companies, etc., playing a leadership role.
 - Induce investment in city centers through the effective location of public and commercial facilities.
 - Make the region more attractive by planning and organizing attractive projects and events that make the most of regional characteristics.
 - Carry out land sales and lease deal matching for unused land while taking steps to improve the attractiveness of land.

44) Initiatives to restore farmland and agricultural facilities, and resume farming operations

- [Issues] (1) How to proceed with the recovery of farmland and agricultural facilities.
(2) How to tackle the issue of expediting the resumption of farming.
(3) How to secure agricultural workers for post-earthquake local agriculture.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Promoting the expansion of field plots, and collaboration with other reconstruction projects (Issues [1] and [2])**

In the Sendai Higashi District of Sendai City, Miyagi Prefecture, based on requests from Miyagi Prefecture and Sendai City, the national government carried out field plot expansion work on 1,900 ha of farmland (0.5 ha or larger) as a National Government Disaster Recovery Project, and promoted the organization and incorporation of farming organizations.

- **Early resumption of producing areas by securing alternative sites (Issue [2])**

By October 2011, the Miyagi Watari Agricultural Cooperative in Yamamoto and Watari, Miyagi Prefecture, had secured abandoned plots of land in inland areas as alternative growing plots. In November, with the use of the national government's Grant for Agricultural Production Measures, the cooperative resumed its shipment of strawberries that were soil-grown on acreage amounting to 20% of that before the earthquake.

- **Consolidating farmland use in the hands of agricultural workers by establishing agricultural cooperative corporations (Issue [3]).**

In the Arahama community in the Sendai Higashi district of Sendai City, Miyagi Prefecture, 41 dual-income farmers took the lead in establishing Sendai Arahama, an agricultural cooperative, through a joint investment with JA. The cooperative utilized the project for intermediary farmland management to consolidate and integrate 88% of the entire 120 ha of farmland in the Arahama community.

[Lessons and Know-How Gained]

- (1) Promote the expansion of farmland plots with the aim to expedite the recovery of farmland and agricultural facilities, and improve productivity.
 - Take steps to restore farmland and agricultural facilities expeditiously with support from the national and prefectural governments.
 - In addition to restoring farmland, expand farmland plots to expand the scale of operations and achieve productivity improvements.
 - Consider the orderly use of land through farmland development carried out in conjunction with the Project for Promoting the Collective Relocation Promotion for Disaster Prevention.
- (2) Expeditiously resume farming operations by securing alternative land, etc.
 - Expeditiously resume farming operations by securing alternative land, and recover producing areas through the introduction of advanced cultivation management systems and other means.
- (3) Use farmland effectively by consolidating farmland use in the hands of new agricultural workers.
 - Secure new workers of local agriculture through the establishment of corporations, etc.
 - Work with the Institution for Intermediary Farmland Management to consolidate farmland in the hands of agricultural workers to keep farmland owned by farmers who decide to leave farming from being abandoned or underutilized.

45) Developing new sales channels for agriculture and forestry

[Issue] (1) How to approach recovering and developing sales channels.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Securing stable sales channels by collaborating with companies outside the affected areas (Issue [1])**
Fukushima Shirohato Farm Co., Ltd. was established in Naraha, Fukushima Prefecture, and the town is working to create a major sweet potato producing area in cooperation with the company, for example, by building a sweet potato storage facility and leasing it to the company, and also by increasing the number of growers.
- **Product development utilizing local resources (Issue [1])**
Producers in the Towa district of Nihonmatsu City, Fukushima Prefecture, formed the Towa Wine Study Group after the earthquake, and in 2012, established the Fukushima Farmer's Dream Wine Co. Ltd. The company brewed and sold out of their ciders made from Nihonmatsu City's prized Hayama apples, whose demand had declined due to negative rumors. The company brewed its first wine in the fall of 2013.
- **Product branding and developing overseas sales channels (Issue [1])**
In Yamamoto, Miyagi Prefecture, a local individual who had been the head of an IT company in Tokyo established a new agricultural production corporation, GRA Co. Ltd., together with local farmers and others to incorporate ICT know-how into agriculture. In addition to branding high quality strawberries that meet certain standards as Migaki-Ichigo and developing its own sales channels, the company is also actively working to expand its sales channels overseas, such as by taking part in food export business meetings organized by JETRO.

[Lessons and Know-How Gained]

- (1) Work with companies outside the prefecture to resume farming and expand business.
 - Local governments are to take a leadership role in efforts such as attracting companies from outside the affected areas by working on finding them farmland, etc.
 - Collaboration with companies outside the affected area help stabilize producers' business and create local employment opportunities.
- (2) Develop new sales channels by developing new products or branding products that are made from local resources.
 - Develop new sales channels by adding value by developing products that use local resources and by branding high quality agricultural products.
 - Aim to develop new businesses by leveraging know-how on growing gained from growing on land affected by the disaster.

46) Upgrading and progressing agriculture and forestry

- [Issues] (1) How to improve productivity in agriculture.
(2) How to upgrade and diversity agricultural business operations.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Improving productivity by introducing cutting-edge technologies (Issue [1])**

Local farmers in the Koizumi district of Kesennuma City, Miyagi Prefecture, founded the Sun Fresh Koizumi Noen Co., Ltd. and built a large-scale nutriculture facility. The facility is equipped with state-of-the-art ICT technology that provides fully computerized control of the nutrient solution and other parameters, and records and analyzes data on crop growth among other factors. This has resulted in improved yields and lower costs, and the system was certified under the international "Global GAP" certification.

- **Creating new agricultural businesses through collaboration between agricultural production corporations and the manufacturing industry (Issue [2])**

Butai Farm Co., Ltd., an agricultural production corporation, through a joint investment with Iris Ohyama Co., Ltd., established a new company, Butai Agri Innovation Co., Ltd. in Watari-cho, Miyagi Prefecture. The company contributes to the preservation and expansion of supply chains of agricultural products by providing farming guidance to young farmers and entering into contracts with production farmers to purchase all of their rice.

- **Cooperation between agriculture, and the manufacturing and service industries and the integration of these industries (Issue [2])**

Tomato Land Iwaki Ltd. in Iwaki City, Fukushima Prefecture, opened an agricultural experience complex, Wonder Farm, and a restaurant in Iwaki City. In addition, the company established the JR Tomato Land Iwaki Farm Co., Ltd through a joint investment with JR East Japan to expand its business in the Tokyo metropolitan area.

[Lessons and Know-How Gained]

(1) Improve productivity by introducing cutting-edge technology.

- Achieve consistent and efficient crop production by introducing ICT and advanced technologies.

(2) Create new business models by collaborating with companies from different industries.

- By collaborating with companies from different industries, create new business models by leveraging each other's strengths and technologies.

(3) Develop a diversified business portfolio in collaboration with other industries.

- In addition to the production of agricultural products, develop a diversified businesses portfolio that includes processing and sales, restaurant businesses, and tourism.
- Work to expand sales channels in collaboration with other industries.

47) Initiatives aimed at resuming business in the fisheries industry

- [Issues] (1) How to proceed with the restoration of damaged fishing facilities and equipment.
(2) How to tackle the issue of expediting the resumption of fishing and aquaculture businesses.
(3) How to tackle the issue of expediting the resumption of business in the fisheries industry and fisheries processing businesses.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **National government projects carried out on behalf of prefectural governments to restore fishing ports and upgrade fishing port functions (Issue [1])**
To support early restoration of the Ishinomaki and Kesenuma fishing ports, the national government undertook disaster restoration projects on behalf of prefectural governments, who are the port administrators.
The earthquake disaster became an impetus for Ishinomaki and other fishing ports to construct, in a single project, a fish market that supports advanced sanitation management and quay walls reinforced to withstand earthquakes.
- **Expediting the resumption of fishing and aquaculture industries through government and prefectural subsidies (Issue [2])**
The Fisheries Agency established a Reconstruction Assistance Project Team, dispatched team members to the affected areas, and set up a local support system.
- **Resuming operations through collaborative and organizational arrangements between fisheries and fish processing industries (Issue [3])**
In the Shikaori district of Kesenuma City, Miyagi Prefecture, 17 disaster-affected fisheries processors established the Kesenuma Shishiori Processors' Cooperative Association with support from several major trading companies to establish highly versatile facilities in the district, improve operational efficiency, and significantly reduce capital investment costs through joint ownership of these facilities.

[Lessons and Know-How Gained]

- (1) Upgrade fishing port functions to meet new needs, along with achieving early restoration of fishing port facilities
 - The national government acts on behalf of prefectures in restoring major fishing ports to ensure the early restoration of the fisheries industry.
 - Develop a fish market that supports advanced sanitation management and quay walls reinforced to withstand earthquakes.
- (2) Quickly set up a local support system to ensure that various national and prefectural support programs can be properly used.
 - Promptly inform the public about national and prefectural support programs, and ensure that these are properly utilized to achieve early resumption of operations.
- (3) Revitalize businesses and manage these businesses efficiently through collaborative and organizational arrangements.
 - Implement fishing boat sharing to quickly resume fishing.
 - Building on union connections to heighten member solidarity.
 - Small-scale fisheries processors are to build an efficient management system under a collaborative arrangement or by establishing a cooperative.

48) Developing sales channels for the fisheries industry

[Issue] (1) How to approach reclaiming lost sales channels and developing new ones.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Organizing trade show/business meeting events (Issue [1])**

The Chamber of Commerce and Industry, and other associated organizations in the fisheries industry formed a consortium, "Center for Promoting the Recovery of Sales Channels of the Reconstructed Fisheries Processing Industry," and held "Tohoku Recovery Processed Fisheries Trade Show/Business Meetings" which contributes to the development of sales channels with the high closing rates achieved at these meetings.

- **Developing sales channels overseas (Issue [1])**

Seven fisheries processors in the Sanriku coastal area, through a joint investment, established the Sanriku Corporation in September 2016, the region's first export trading company, and is now extending its sales channels overseas under a unified SANRIKU brand.

- **Local businesses jointly producing processed food products and developing their sales channels (Issue [1])**

In Ishinomaki City, Miyagi Prefecture, ten fisheries processors established Ishinomaki Umaimono Co., Ltd., and all ten companies work jointly to develop their sales channels, including in their development of the Ishinomaki Kinka Chazuke series and other products. In developing new products, the company also took advantage of the Reconstruction Agency's Model Project for Revitalization of the Fisheries Processing Industry by Forming Teams.

- **Improving quality and brand value by reforming production structures (Issue [1])**

The Togura Oyster Working Group of the Shizugawa Branch of the Miyagi Prefectural Fisheries Cooperative took steps to drastically reform the production structure of their oyster farming operations, launching a new aquaculture method that involved reducing the number of oyster farming racks. As a result of these efforts, the quality of their oysters improved, and the cooperative became the first in Japan to receive ASC certification*. (*ASC = International certification given by the Aquaculture Stewardship Council)

[Lessons and Know-How Gained]

(1) Create business opportunities with new businesses by holding and exhibiting in trade shows and business meetings.

- Hold trade show/business meeting events to increase opportunities for organizations to enter business negotiations with businesses with which they have not had business relationships in the past.
- Boost the momentum for recovering local fishery by jointly hosting these events with business organizations, and fisheries processing industry organizations from the affected areas.

(2) Develop new sales channels through the development of distinctive, high value-added products.

- Develop products that meet the needs of the Asian market, which is expected to grow, to develop new sales channels.
- Take the disaster as a turning point to reform conventional production structures, improve quality, and increase brand value to develop new sales channels.

49) Upgrading and progressing the fisheries industry

- [Issues] (1) How to promote the creation of new businesses in the fisheries and fisheries processing industries.
(2) How to upgrade and diversify the fisheries processing business.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Research and development for rebuilding the fishery industry (Issue [1])**

With the aim of supporting the reconstruction of the fishery industry, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) has been implementing the Tohoku Ecosystem-Associated Marine Sciences (TEAMS) project since FY2011, a research and study project of marine ecosystems in the affected areas led by Tohoku University, the Atmosphere and Ocean Research Institute (AORI) of the University of Tokyo, and the Japan Agency for Marine-Earth Science and Technology (JAMSTEC). The project developed fisheries technologies for the fisheries and aquaculture industries in the coastal areas of Miyagi and Iwate Prefectures.

- **Create new business models by introducing the latest technologies (Issue [1])**

Sanriku Toretate Ichiba Co. in Ofunato City, Iwate Prefecture, introduced state-of-the-art freezing technology, CAS (Cells Alive System), to improve product quality, and also took this opportunity to shift its focus from providing fresh fish to providing value-added frozen processed products that take into account the consumer's perspective.

- **Business innovation by incorporating new ideas in product development (Issues [1] and [2])**

In response, Hachiyo Suisan, Kesenuma, Miyagi Prefecture, actively utilized the Reconstruction Agency's Internship Program for Reconstruction and Creation to take in student interns, and proactively carried out product development and promotional operations that incorporated new ideas from these students.

[Lessons and Know-How Gained]

(1) Introduce new technologies to develop high value-added products and create new business models.

- Utilize new technologies to develop high value-added products that meet consumer needs.
- Promote high productivity in fishing and aquaculture industries by utilizing the results of research and development at universities and research institutions.

(2) Carry out management innovations based on flexible ideas in ways that correctly address market changes.

- Correctly understand consumer needs and market changes, and develop business strategies that capitalize on the company's individuality and strengths.
- Expand exchanges through work experience and other activities to revitalize the local fisheries industry.

50) Restoring tourist facilities and functions

- [Issues] (1) How to proceed with the restoration of damaged tourist facilities and equipment.
(2) How tourism businesses in the affected areas realize business continuation.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Reopening facilities quickly by networking with industry peers (Issues [1] and [2])**

Aquamarine Fukushima (Fukushima Marine Science Museum), an aquarium in Iwaki City, Fukushima Prefecture, evacuated surviving fish in their care to nearby aquariums and reopened in July 2012. The aquarium cooperates with five facilities in China and Hong Kong on not only staff and technical exchanges, but also in attracting visitors.

- **Hotels continuing their business and serving as hubs of information on reconstruction (Issue [2])**

Minamisanriku Hotel Kanyo in Minamisanriku, Miyagi Prefecture, which became an evacuation shelter after the earthquake, reopened its restaurant one month after the disaster, and four months later began operating a storytelling bus to keep the memory of the disaster alive with hotel employees serving as storytellers.

- **Hotels continuing their business and serving as hubs of exchange with other regions (Issue [2])**

The proprietress of the "Hamabe no Ryoriyado Horaiken" ryokan in the Unosumai district of Kamaishi City, Iwate Prefecture, herself worked to disseminate information of the community as a storyteller. In 2016, she established Nebama MIND, a general incorporated association, engaged in efforts to take in volunteers and sightseeing tours from within and outside the prefecture.

[Lessons and Know-How Gained]

- (1) Achieve early restoration of facilities based on networks and cooperative relationships that were already formed in normal times.
 - Utilize networks with industry peers to promote the early resumption of business.
 - Utilize overseas networks to promote exchange of staff and technology, and increase the number of visitors.
- (2) Businesses attract visitors by disseminating information on their own experience of recovery.
 - Store owners and innkeepers themselves can disseminate information about their recovery and have exchanges with people from other regions.
 - People who sympathize with a community's revitalization efforts promote exchanges with other communities.
 - Promote the attractiveness of local railroads, etc., as regional tourism resources and have more people engage in personal interactions with others and attract more tourists.

51) Preservation and development of the soft aspects of tourism

- [Issues] (1) How to disseminate information in ways that will attract tourists.
(2) How to strengthen and improve the systems for promoting tourism.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Promote the region's attractive cuisine and culture (Issue [1])**

The Matsukawaura Tourism Promotion Group was formed by 27 businesses, led by the Soma City Tourism Association and the Matsukawaura Ryokan Association, and applied for a group subsidy to restore facilities and conduct maintenance.

- **Promote exchange-oriented experiential tourism which fosters personal exchanges with local communities (Issue [1])**

Tanohata Village, Iwate Prefecture launched the Tsukuehama Banya Restoration Project for conducting sappa boat cruises, and hosting storytelling events of people's experiences from the tsunami as well as guided tours.

- **Developing independent projects to strengthen organizations that promote tourism (Issue [2])**

The Minami Sanriku Tourism Association of Minamisanriku, Miyagi Prefecture, strengthened its organizational base, such as by converting the employment status of temporary staff to full-time employment.

- **Bringing the community together as a cohesive team to promote tourism by forming a regional DMO (Issue [2])**

In Kesenuma City, Miyagi Prefecture, the Kesenuma Tourism Promotion Organization was established as a regional DMO (*), led by a board consisting of representatives from the city, tourist association, and chamber of commerce and industry, and the "Kesenuma Regional Strategy," was established to serve as the secretariat. As a result, it became possible to formulate and operate tourism strategies based on a structure and marketing operation that were more robust than before the earthquake.

(*) Destination Management/Marketing Organization: A corporation that carries out regional development through tourism.

[Lessons and Know-How Gained]

(1) Improve the ability to attract visitors by disseminating information on cuisine and culture that are distinct to the region, and by developing experience-based programs.

- Disseminate information promoting the region's unique and attractive resources to improve the ability to attract visitors. Have more people engage in personal interactions with the local community through experience-based programs, rather than just "seeing" programs.
- Increase the number of people, engaging in personal exchanges with the local community through experience-based programs, rather than simply "sightseeing" programs.
- Local governments, tourism-related parties, and transportation operators work together to promote attractive tourism resources both domestically and internationally.

(2) Strengthen the structure of the tourism association and establish regional DMOs to reinforce the structures that promote tourism.

- The tourism association develops independent projects to strengthen its structure, such as by improving profitability and securing personnel.
- Establish an organization where local government agencies and tourism businesses can work together as a cohesive team to plan, manage, and promote tourism.

52) Creating new tourism demand

- [Issues] (1) How to add value to the tourism resources in the affected areas.
(2) How to attract inbound visitors from abroad.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Sea-themed experiential tourism programs (Issue [1])**

The town of Minamisanriku, Miyagi Prefecture, is promoting the use of tourism resources in blue tourism by developing experiential tourism programs such as marine leisure, and by selling local specialty products online that tourists can purchase even after they leave.

- **Developing overnight or extended stay facilities using local forest resources (Issue [1])**

In September 2014, Hakoneyama Terrace Co., Ltd., in Rikuzentakata City, Iwate Prefecture, developed a facility for overnight or extended stay that utilized local forest resources, and took advantage of the lush green mountain environment overlooking Hirota Bay, attracting many tourists from within and outside the region.

- **Attracting wealthy inbound guests (Issues [1] and [2])**

The Tohoku Premium Supporters Club offers Tohoku travel products jointly developed by 20 tourism related businesses for wealthy westerners, and by promoting these to overseas travel agencies and media, the Club has succeeded in attracting more visitors than what it had targeted.

- **Establishing regional DMOs targeting inbound travelers (issues [1] and [2])**

In-Outbound Sendai-Matsushima Inc., which primarily operates in Sendai City, Natori City, and Higashi-Matsushima Town, has designated six cities and three towns, including Sendai, and cities and towns in the surrounding areas, including Sendai Airport, as central urban areas, and is developing new tourism plans featuring each of the areas' hot springs, natural settings, and other tourism resources.

[Lessons and Know-How Gained]

(1) Re-create local resources into value-added tourism products.

- Reexamine the appeal of local resources, and develop and disseminate information on high value-added products.
- After attracting tourists, continue to promote attractive products from the affected areas online.

(2) Strengthen and improve the systems for attracting inbound visitors and develop travel products and conduct promotional activities.

- Build a collaborative system that transcends public and private sector boundaries, and create strategies and mechanisms for attracting inbound visitors.
- Build a collaborative system between businesses that transcends regional boundaries and attract inbound visitors.

53) Promoting reconstruction tourism

- [Issues] (1) How to build on the experiences and lessons learned from the disaster in tourism programs.
(2) How to connect reconstruction tourism to the revitalization of regional economies.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Learning about disaster prevention from disaster heritage sites (Issues [1] and [2])**
In its "Miyako City Tourism Brochure," Miyako City introduces the Taro Kanko Hotel (four of its six floors destroyed in the tsunami) and the Earthquake Disaster Memorial Park Nakanohama in three languages: Japanese, English, and Chinese to communicate the severity of the tsunami damage to tourists.
- **Networking groups and disaster legacy facilities (Issues [1] and [2])**
In order to more effectively and efficiently pass down the legacy of the earthquake disaster, the "Earthquake Disaster Legacy Network Council" (Tohoku Regional Development Bureau, Aomori, Iwate, Miyagi, and Fukushima Prefectures, and Sendai City) was formed to register "disaster legacy facilities" as well as develop maps and guide signs.
- **Hope Tourism, a program of learning trips to disaster-affected areas for personal growth (Issue [1])**
Fukushima Prefecture has developed and is promoting "Hope Tourism," a program of learning trips that help participants gain personal growth by learning about Fukushima as it really is (including the light and dark).
- **Developing systems for promoting reconstruction tourism (Issues [1] and [2])**
In order to promote, as the pillars of Sanriku tourism, educational tours and corporate study tours centering on learning about the earthquake disaster, Iwate Prefecture established a platform in FY2013 to serve as a one-stop contact point for its disaster learning programs to strengthen and expand its system for taking in learners to these programs.

[Lessons and Know-How Gained]

- (1) To attract visitors, create programs that pique the interest of people who have not experienced the disaster to learn more about it.
 - Create programs that incorporate "disaster legacy facilities" and disaster heritage sites so that visitors can learn about the earthquake in the field.
 - Promote storytelling tours in cooperation with local tourism associations and volunteers.
 - Conduct guided tours of reconstruction in the field to show visitors the current conditions in the affected areas.
- (2) Develop a promotion system to attract visitors from outside the affected areas.
 - Develop a system to promote reconstruction tourism through collaboration between government agencies, travel and transportation operators, and other related organizations.
 - Promote the program to travel agencies, etc. to attract visitors from the Tokyo metropolitan area and other regions.

54) Securing human resources such as volunteers and NPO staff, and collaborating with them from normal times

- [Issues] (1) How to coordinate the intake process for volunteers arriving at disaster areas.
(2) How to address the needs of disaster victims during evacuation.
(3) How to make the best use of international support and know-how.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Logistical support for disaster relief volunteer intake (Issue [1])**

Tono City in Iwate Prefecture had already set up a support system as a logistical support base for coastal local governments in normal times. On March 28 after the disaster, Tono Magokoro Net, a non-profit organization, was established mainly by citizens, social welfare councils, and volunteer groups to take in and dispatch disaster relief volunteers.

- **Distributing supplies efficiently by surveying the needs for supplies in the affected areas (Issue [2])**


Japan Platform (JPF), an NGO, matched more than 200 offers of goods and services with the need for supplies reported by NGOs in the affected areas, and distributed these supplies.

- **Making use of international refugee assistance know-how in supporting disaster victims (Issue [3])**

The Japan Association for Refugees, an authorized NPO, responded to the diverse demands of disaster victims by providing support through community support programs and refugee volunteer dispatch programs.

[Lessons and Know-How Gained]

(1) Work with councils of social welfare and NPOs, etc., to coordinate the smooth intake of volunteers.

- With respect to the functions of volunteer shelters that will be set up by councils of social welfare at times of disaster, prepare systems, manuals, and drills in advance.
 - Before volunteers arrive at the affected areas, groups made up of NPOs, etc., and citizens as well, coordinate the dispatch and intake of volunteers to reduce the workload of volunteer shelters in the affected areas.
 - Use the Internet to call for volunteers, accept applications, and coordinate their dispatch.
- 

54) Securing human resources such as volunteers and NPO staff, and collaborating with them from normal times

[Lessons and Know-How Gained]

- (2) All capable entities, including government agencies, businesses, and NPOs collaborate to provide support for securing and distributing relief supplies for disaster victims, and setting up living conditions in evacuation shelters.
 - Coordinate quickly to provide emergency supplies and soup kitchens for disaster victims.
 - Secure clothing and other daily commodities from companies and organizations, match them with the needs of each shelter, and ensure that shelters receive ongoing deliveries of these supplies.
 - Provide support in making improvements to evacuation shelter environments, such as cleaning the shelters and drying bedding to ensure a hygienic stay for disaster victims.
- (3) Utilize international expertise, such as providing multilingual information for foreign residents affected by the disaster and dispatching teams of experts from abroad.
 - NPOs, etc., with experience in international support activities are to provide multilingual information to foreign residents affected by the disaster, consultation on rebuilding their lives, and other forms of assistance to disaster victims.
 - Receive teams of medical, educational, and other experts from various countries and use their expertise in diverse fields to provide support.

55) Safeguarding the elderly and children and providing support for daily life activities through NPOs and other organizations

- [Issues] (1) How to ensure and continue watch-over support for the elderly, etc.
(2) How to provide support for the daily lives of the elderly, etc.
(3) How to provide support for children.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Safeguarding through collaboration between NPOs and councils of social welfare, etc. (Issue [1])**

After the disaster hit, the NPO Sendai Listening Group held listening sessions for disaster victims at evacuation shelters and emergency temporary housing. It also provided a learning course where daily-life support counselors and others learned the listening know-how they would need for supporting the elderly who were staying in emergency temporary housing, etc.

- **Mobility support for disaster victims who have no means of transportation (Issue [2])**

Rera, a non-profit organization, provides transportation assistance for shopping, hospital visits, etc., as well as trips accompanied by personal helpers for people who require nursing care, and farming experience trips for the elderly whose paddies or fields have been damaged in the disaster.

- **Supporting children's learning, and creating places where they can spend their time (Issue [3])**

Authorized NPO Katariba set up Collaboration Schools in Onagawa Town, Miyagi Prefecture, and Otsuchi Town, Iwate Prefecture, as places where children who had no place to study but in temporary housing and temporary school buildings could spend their time after school hours. This Collaboration School activity has spread to Mashiki Town in Kumamoto Prefecture, which suffered severe damage in the Kumamoto earthquake of 2016, and uses crowdfunding to raise funds and strengthen its revenue structure.

[Lessons and Know-How Gained]

- (1) Commission operations to NPOs, etc., with expertise, and utilize existing private-sector services to help safeguarding the elderly and maintain their health.
 - Assign daily-life support counselors to watch over the elderly, provide daily-life counseling, and assist them in their daily lives.
 - To safeguard the elderly, partner with private businesses that provide services for the elderly.
 - To maintain the health of the elderly and prevent their isolation, NPOs, etc., are to create opportunities for personal interactions that are thoughtful of elderly people's health.



55) Securing human resources such as volunteers and NPO staff, and collaborating with them from normal times

[Lessons and Know-How Gained]

- (2) NPOs, etc., identify the support needs of individual elderly people and provide necessary support, such as mobility support.
 - Provide mobility support to the elderly and disabled to assist with hospital visits and grocery shopping.
 - Make Individual visits to understand what kind of support the elderly person needs, and if necessary, match them with professionals such as a physician or lawyer.
- (3) Government agencies and NPOs work together to support children's learning and provide mental health care.
 - To provide mental care and learning support for children, commission operations to NPOs, etc., with experience and know-how
 - NPOs and NGOs make effective use of crowdfunding and other fundraising tools to continue their mental health care and learning support activities.

56) Support from NPOs and other groups in the revitalizing of communities

- [Issues] (1) How to support the revitalization of local communities where people have strong connections with each other.
(2) How to curb the loss of employment opportunities and population outflow.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Collaborative strategies for community rebuilding by government agencies, residents, business owners, landowners, etc. (Issue [1])**
In Ofunato City, Iwate Prefecture, a community based on a shopping district was formed in Kyassen Ofunato, which was developed as a base for reconstruction.
With its sights set on the revitalization and continuation of igune, or tree groves around houses, NPO Urban Design Works connected neighborhood associations with the city, and ensured that matters such as changes made to disaster risk zoning were reflected in community development plans to revitalize these communities that were made up of residents who have already relocated, those who have rebuilt on their existing lot, and those who were seeking to relocate.
- **Promoting relocation and supporting the entrepreneurship of young people (Issue [2])**
Kesenuma City Relocation and Settling Support Center MINATO, operated by Maru-Office, a general incorporated association, is attracting migrants to Kesenuma City which has been losing its population after the earthquake, and helping these migrants settle in.
- **Creating jobs in social businesses by securing sources of funding (Issue [2])**
The RCF Reconstruction Support Team (now General Incorporated Association RCF), in collaboration with Winwin Co., Ltd., and Pasona Tohoku Sousei Inc, implemented the "Model Project for Supporting the Dispatch of Specialized Human Resources between Businesses," a project commissioned by the Reconstruction Agency, to assess the business issues and human resource needs that hiring companies have, and provide training for recruitment and employee retention.

[Lessons and Know-How Gained]

- (1) NPOs, etc., connect various entities with each other to develop collaborative strategies for community revitalization.
 - Utilizing area management techniques, government agencies, residents, business owners, landowners, and others work together to revitalize their community.
 - Rebuild communities around existing local resources.
 - Promote community collaboration by involving residents in the process of community development.
- (2) NPOs, etc., promote the relocation and settling in of potential migrants by communicating the region's charms, and provide employment support in cooperation with companies.
 - Promote the region's charms, connect people who own vacant houses with those who are considering relocating to the region, and help people settle in.
 - Support youth entrepreneurship and promote youth retention.
 - Work with entities that aim to make contributions to regional societies to support the employment of people with disabilities at welfare offices.
 - Take on the function of "social business coordinator" and collaborate with companies and other organizations that are actively contributing to society to resolve issues that arise in the wake of disasters.

57) Intermediary support organizations and networks

- [Issues] (1) How to intermediate support organizations coordinate the activities of NPOs, etc.
(2) How to intermediate support organizations support the activities of NPOs, etc.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Establishing intermediate support organizations at the prefectural (geographic) level (Issue [1])**

In three affected prefectures, intermediary support organizations were established at the prefectural (geographic) level to consolidate and share information related to disaster victim support, and coordinate activities thereof between NPOs and government agencies.

- **Networking NPOs, etc. and government agencies (Issue [2])**

The Japan Civil Network for Disaster Relief in East Japan (JCN) consolidated and published information on support for disaster victims, created activity guidelines, and held regular liaison meetings between NPOs, etc., and government ministries and agencies.
In Miyagi Prefecture, 3.11 Mirai Support, a public interest incorporated association, regularly held various meetings and supported NPOs, etc., in their coordination and collaboration activities.

- **Support for organizational management and establishing a financial foundation (Issue [2])**

The Japan NPO Center established the Great East Japan Earthquake Local NPO Support Fund for local NPOs that were assisting disaster victims rebuild their lives in three affected prefectures. It has been providing grants for training staff at NPOs, etc., and building an information network.

[Lessons and Know-How Gained]

(1) Create opportunities for information sharing between NPOs, government agencies and supporting organizations.

- Establish intermediary support organizations at the prefectural (geographic) level to share information among various NPOs and support organizations in the prefecture.
- In the event of a disaster, municipalities are to work with community associations and other local groups, medical and welfare-related organizations, etc., to ascertain the whereabouts of evacuees outside of evacuation shelters with special needs, and whether or not they require assistance.
- Municipalities, facility personnel, and support groups are to begin considering the designation and operation of welfare evacuation shelters in normal times, and conduct drills to ensure the smooth acceptance of people with special needs.



57) Intermediary support organizations and networks

[Lessons and Know-How Gained]

- (2) Build a network of NPOs, etc., and a cooperative system with government agencies to provide support for disaster victims effectively.
 - Support the formation of networks where intermediary support organizations act as coordinators to link NPOs, etc.
 - Create a mechanism for cross-sectoral information sharing and collaboration between NPOs, etc., and government agencies.
 - Support activities based on self-reliance and collaboration that are carried out by a diverse range of civic groups including NPOs that continue to address regional reconstruction issues.
- (3) Support NPOs, etc., to strengthen their infrastructures and improve their sustainability.
 - To NPOs with inadequate organizational infrastructures, provide financial grants, and know-how on human resource development and organizational management.

58) Cooperation and division of roles between public and private sectors

- [Issues] (1) How to establish a system of public-private partnerships in normal times.
(2) How public and private sectors share roles and leverage their respective strengths.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Establishing a system of public-private partnerships from normal times (Issue [1])**
Building on regular connections that it had formed before the earthquake, the City of Kitakami, Council of Social Welfare, and Council of Employment Measures worked together to establish the Kitakami Reconstruction Support Collaborative to provide assistance to disaster victims.
- **Efficient support for restoration based on the division of roles between public and private sectors (Issue [1])**
In April 2011, a Four-Party Liaison Conference for Disaster Victims Support was established at the Miyagi Prefectural Government Office, consisting of the Government Local Response Headquarters (national government), the government of Miyagi Prefecture, Self-Defense Forces, and NGO/NPOs. Matters deliberated in the meeting included the provision of meals, support for evacuation shelter operations, and distribution of supplies.
- **Solving rebuilding issues through public-private sector collaboration (Issue [2])**
Iwate Prefecture established the Iwate Social Contribution and Reconstruction Activity Support Fund and provided subsidies to NPOs, etc., for reconstruction activities and efforts to solve regional issues, such as organizing experiential tours that convey the appeal of the fishing industry.

[Lessons and Know-How Gained]

- (1) Establish a public-private partnership system from normal times and provide recovery support based on roles.
 - Establish a system of cooperation with NPOs and other intermediary support organizations from normal times, and make specific arrangements on how information should be shared and how to collaborate with each other.
 - When disaster strikes, hold meetings to exchange information between the public and private sectors, and maintain a system for continuously engaging in reconstruction issues as a collaborative body.
- (2) Tackle local issues by leveraging the respective strengths of the public and private sectors.
 - NPOs, etc., leverage their own experience, know-how, networks, etc., while government agencies commission NPOs, etc., for efficient problem-solving.

59) Reconstruction support by the private sector

- [Issues] (1) How companies support the recovery process by putting their own unique characteristics to use.
(2) How companies cooperate and collaborate with the national government, local public authorities, and NPOs in supporting reconstruction.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Businesses providing diverse support by leveraging their primary line of business (Issue [1])**
Shiseido Co., Ltd. carried out Beauty Support Activities, which provided skincare and other beauty services to disaster victims, and a Reconstruction Support Marché, which featured a collection of products from the Kesen area for in-house sales.
- **Long-term support (Issue [1])**
Since immediately after the disaster, the Yamato Group had been making a 10 yen donation to the Yamato Welfare Foundation for every parcel it delivered, and established the Great East Japan Earthquake Livelihood and Industrial Infrastructure Recovery and Revitalization Fund totaling 14.2 billion yen. Through 2017, the fund supported 31 projects in the areas of fisheries, agriculture, commerce, and livelihood in three affected prefectures.
- **Cooperation and collaboration between the national government, local public authorities, and NPOs (Issues [1] and [2])**
In its Takeda Life and Life Restoration Program, a collaborative project with the Japan NPO Center, Takeda Pharmaceutical Company Limited provides welfare and health support in the affected areas, support for the development of livelihood infrastructure that leads to job creation, and support for NPO leadership development.

[Lessons and Know-How Gained]

- (1) Provide and continue to provide quick support that builds on companies' strengths in their primary line of business and inter-company cooperation.
 - Consolidate information on the affected areas and disseminate it widely to businesses and other entities.
 - Companies provide support in the form of monetary donations and/or relief supplies, depending on the size of the company.
 - Leverage companies' technological capabilities to provide disaster victim assistance that cannot be handled by government agencies or NPOs.
 - Begin engaging in social contribution activities from normal times and build on this experience.
 - Support employees' self-driven volunteering activities.
- (2) Activate corporate support through collaboration and cooperation with the national government, local public authorities, NPOs, etc.
 - Provide financial support for initiatives that are not adequately supported by government agencies.
 - Provide financial support and implement collaborative projects for the diverse range of initiatives being carried out by NPOs, etc.
 - Utilize corporate expertise to provide support for disaster victims and community reconstruction, etc., in cooperation with government agencies, NPOs, etc.

60) Securing support staff, and other associated tasks (initiatives by local authorities receiving support)

- [Issues] (1) How disaster-hit local authorities secure support staff.
(2) How to set up their staff intake processes

[Initiatives in the aftermath of the Great East Japan Earthquake]

• **Securing support staff through mutual disaster support agreements (Issue [1])**

Tagajo City, Miyagi Prefecture, had mutual disaster support agreements with all municipalities in the prefecture since before the earthquake. It also had Friendship City Agreements with Dazaifu City and Nara City who dispatched staff to mainly support Tagajo City's restoration of sewerage facilities and cultural properties.

Since before the earthquake, Kamaishi City in Iwate Prefecture already had mutual disaster support agreements with municipalities in the prefecture as well as Tokai City in Aichi Prefecture. This enabled the city to receive prompt support in the form of support staff dispatches and emergency supplies immediately after the disaster struck.

• **Developing disaster relief intake plans (Issue [2])**

In March 2014, Iwate Prefecture formulated the Iwate Prefecture Disaster Relief Intake and Provision Plan, which clarifies the tasks that support personnel should be requested for and stipulated the assignment of a support intake team to coordinate requests for personnel and material support to, and offers of support from other prefectures.

• **Support from the lead prefecture within a wide-area block for coordinating support intake (Issue [2])**

Based on a proposal by Yamagata Prefecture, which was the lead prefecture in the mutual support agreement (block agreement) between eight prefectures including Hokkaido and the Tohoku prefectures, Miyagi Prefecture set up a forum for coordinating with supporting prefectures and this enabled it to take in support from numerous local public authorities.

[Lessons and Know-How Gained]

- (1) For example, enter disaster support agreements with multiple local authorities and conduct joint disaster drills with them to establish cooperative relationships with them from normal times to avoid connected agencies being incapacitated concurrently from disaster damage.
 - Enter disaster support agreements with local authorities with which Friendship City Agreements are already in place.
 - To ensure appropriate support in the event of a disaster, enter agreements with multiple local authorities, including those in distant locations.
- (2) Formulate an intake plan for receiving support staff to ensure a smooth intake process.
 - Set up an organization responsible for support staff intake at Disaster Response Headquarters to smoothly coordinate with local authorities who send their staff, and the departments to which these staff will be assigned.
 - To ensure the smooth continuation of operations, assign a person in command of directing operations and several persons in charge of support intake.
- (3) In the block agreement, designate a prefecture in advance that will coordinate support intake on behalf of the affected prefectures.
 - In the wide-area block agreement between prefectures, designate a number of prefectures in advance to perform support intake coordination tasks on behalf of affected prefectures, such as in receiving support staff.


61) Dispatching support staff (initiatives by supporting local authorities)

- [Issues] (1) How supportive local authorities develop and utilize their dispatch scheme?
(2) How supportive local authorities select their support staff?

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Whole administrative support — dispatching multiple departments *en bloc* (Issue [1])**
Nagoya City dispatched personnel from several departments *en bloc*, including contact desk operations, civil engineering, and finance to Rikuzentakata City, Iwate Prefecture.
- **Dispatch of staff by National Governor's Association, etc. (Issue 1)**
In the aftermath of the Great East Japan Earthquake, it set up an Emergency Wide-Area Disaster Response Headquarters where it received requests for assistance directly from affected prefectures, and dispatched staff and provided supplies to these affected prefectures without going through the block system.
- **Scheme for dispatching staff by the Ministry of Internal Affairs and Communications (MIC) working with the Japan Association of City Mayors, and the National Association of Towns and Villages (Issue [1])**
The MIC, with the cooperation of the National Association of City Mayors and the National Association of Towns and Villages, developed a new nationwide mechanism for dispatching staff, and three affected prefectures and municipalities in these prefectures were able to secure a cumulative total of approximately 97,000 support staff by March 31, 2020.
- **Prompt dispatch based on the counterpart method (Issues [1] and [2])**
In the immediate aftermath of the disaster, the Union of Kansai Governments dispatched employees using the counterpart method in which each of its member prefectures was assigned to provide support to one of the three affected prefectures.
- **Introducing an Emergency Response Staff Dispatch System (Issue [1])**
Ministry of Internal Affairs and Communications (MIC) developed the Emergency Response Staff Dispatch System in 2018. Under this system, [1] prefectures and designated cities are assigned to disaster-stricken municipalities on a one-to-one counterpart basis to provide support for disaster response operations such as operating evacuation shelters, and [2] a pre-registered general support team is dispatched to advise heads of municipalities among other tasks. The system has been in operation since the Torrential Rains of July 2018.

[Lessons and Know-How Gained]

- (1) Provide staffing through mechanisms that enable nationwide and wide-area coordination.
- Dispatch support staff according to the needs of affected local public authorities through dispatch schemes established by National Governor's Association, and dispatch schemes established by the Japan Association of City Mayors, National Association of Towns and Villages, and the MIC.
 - Supportive local authorities work together to promote efficient support using the counterpart method to avoid duplication of support.
- 

61) Dispatching support staff (initiatives by supporting local public agencies)

[Lessons and Know-How Gained]

- (2) Supporting parties take the initiative in identifying and coordinating needs, and send personnel with the needed occupational description.
 - Supporting parties take the initiative to provide push-type support to local authorities that have suffered severe damage.
 - Dispatch advance teams and open local offices to assess the damage and support needs, and coordinate with the affected local authorities.
- (3) To select staff members to dispatch by consulting lists describing the experience and skills of employees and also recruit agency employees.
 - Have a list of the experience and skills of staff ready in normal times, including experience, skills, and qualifications in earthquake recovery work.
 - Recruit agency employees to secure experienced and motivated support staff.

62) Continuation of long-term dispatching of staff

- [Issues] (1) How supportive local public authorities secure support staff for the reconstruction phase
(2) How to reduce the burden on staff dispatched long-term

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Securing staff by hiring fixed-term employees (Issue [1])**

In order to dispatch staff to work in the affected areas over the mid- to long-term, the Tokyo Metropolitan Government (TGM) has introduced a new scheme, ahead of any other municipality in Japan, to hire general fixed-term employees and dispatch them to the affected municipalities.

- **Recruiting fixed-term employees under the Reconstruction Agency scheme (Issue [1])**

Since 2013, the Reconstruction Agency has been carrying out programs to directly support reconstruction work where part-time national public officials are recruited from the public and dispatched to affected municipalities.

- **Thoughtfulness towards dispatched staff on the part of organizations from which they are dispatched and their destination organizations (Issue [2])**

Tokai City in Aichi Prefecture, which dispatched staff to Kamaishi City in Iwate Prefecture, secured accommodations by renting a hotel because there were few apartment vacancies in Kamaishi City, and temporary housing was far from the city center.

In Yamada Town, Iwate Prefecture, thoughtful consideration was given to the mental state of employees that it had dispatched. It provided an annual stress check for all dispatched employees and counseling sessions with a clinical psychologist twice a month as an opportunity for casual consultation.

[Lessons and Know-How Gained]

- (1) Supportive local authorities dispatch support staff over the mid- to long-term by hiring fixed-term employees and reappointing former employees.
 - Hire support staff as fixed-term employees and dispatch them on a mid- to long-term basis.
 - If staff will be dispatched long-term, work with networks of former employees to find substitutes who can serve as temporarily appointed staff to ensure that operations at the dispatching organization can be maintained.
- (2) To reduce the burdens on dispatched staff members, supportive local authorities coordinate with affected local public authorities to give thoughtful consideration to the living environment, and mental and physical care of dispatched staff members.
 - To care for dispatched personnel, provide opportunities for dispatched staff to have interviews at local bases of activity or other location.
 - Reduce employees' workloads and mental strain, such as by dispatching staff from the same workplace in pairs.
 - If staff are to be dispatched for the mid- to long-term, local authorities affected by the disaster secure accommodations for staff they take in.

63) Ongoing support for administrative functions

[Issue] (1) How local governments whose government buildings have been damaged continue to perform their administrative functions.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Constructing new government buildings as bases of operation for recovery and reconstruction (Issue [1])**

Otsuchi Town's town hall functions were relocated to the Central Community Center for the near-term. Subsequently, a temporary town hall was set up on the Otsuchi Elementary School playground, and the school building was also used as the part of the town hall. Subsequently, this building was renovated into a town hall using the Emergency Restoration Subsidy for Municipal Administrative Functions established by the Ministry of Internal Affairs and Communications.

- **Securing human resources for continuing operations (Issue [1])**

Otsuchi Town and Rikuzentakata City requested the dispatch of support staff through the Prefectural Association of City Mayors, and the Prefectural Association of Towns and Villages in order to secure the necessary personnel to continue their operations. Municipalities offered their support.

- **Rebuilding organizations with the support of human resources from the national and prefectural governments (Issue [1])**

This meant that all of the managers active at the time of the earthquake were no longer active. In October 2011, the town assigned six of the nine department head positions to seconded staff from the national and prefectural governments to bolster its system and support town officials who were inexperienced as managers. Furthermore, employees from the national and prefectural governments were appointed deputy mayors, and efforts to reinstate the organization were undertaken under a system that had three deputy mayors.

- **Support for securing the administrative functions of relocating local authorities at their destination (Issue [1])**

Town hall functions and residents of Futaba Town in Fukushima Prefecture relocated to Kawamata Town on March 12. On April 1, upon relocating town hall functions to the former Saitama Prefectural Kisai High School in Kazo City, Saitama Prefecture, it established the Futaba Town Saitama Branch Office. In March 2011, Kazo City established the Kazo City Futaba Town Support Task Force to provide evacuation support with the cooperation of citizens and related organizations.

[Lessons and Know-How Gained]

(1) Secure a temporary administrative building as soon as possible.

- Affected local authorities secure temporary administrative buildings that are needed for moving forward with recovery and reconstruction work.

(2) Prefectural governments support the restoration of administrative functions at affected local authorities.

- Prefectural governments support the restoration of administrative functions of affected municipalities that have lost their administrative functions by providing temporary government buildings, dispatching staff, and restoring data such as Basic Resident Registers data.

(3) Support the relocation of administrative functions of affected local authorities with the cooperation of the out-of-prefecture local authority of to where they will be relocating.

- local authorities to where administrative functions will be relocated provide temporary government buildings to enable the affected local authorities to conduct operations, as well as support for evacuees.

64) Preservation of earthquake records and dissemination of lessons learned

- [Issues] (1) How to collect and preserve records of the disaster
(2) How to communicate lessons learned from the disaster and the recovery process

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Creating Hinagaiku, the National Diet Library Great East Japan Earthquake Archive (Issues [1] and [2])**
The National Diet Library, in collaboration with archives owned by local governments, libraries, universities, research institutes, private organizations and other organizations, built its National Diet Library Great East Japan Earthquake Archive (nicknamed Hinagiku), a portal site for collecting, preserving, and releasing records of the Great East Japan Earthquake nationwide.
- **Dissemination of records of the disaster and lessons learned by affected local authorities (Issue [2])**
In addition, Aomori, Iwate, Miyagi, and Fukushima prefectures have been holding the Four Tohoku Prefectures, Great East Japan Earthquake Recovery Forum annually in Tokyo since 2014, with Tokyo participating in the event since 2015.
- **Disseminating lessons learned from the earthquake and information on the state of reconstruction overseas (Issue [2])**
Sendai City in Miyagi Prefecture, hosted the 3rd United Nations World Conference on Disaster Reduction in March 2015 and adopted the Sendai Framework for Disaster Reduction 2015-2030. In conjunction with the conference, the prefecture held symposiums and exhibitions on disaster prevention and reconstruction, and study tours to the affected areas.

[Lessons and Know-How Gained]

- (1) The national government, local authorities, universities, private companies, etc., work together to widely collect and preserve earthquake-related materials and promote their utilization for disaster prevention and mitigation.
 - The national government, local governments, universities, and the private sector collect and preserve earthquake-related materials recorded in various forms, such as documents, photographs, and videos, to prevent them from being scattered and lost.
 - Continuously collect and preserve documents, photographs, videos, and other records not only of the actual damage and emergency response, but also of the processes of emergency response, recovery, and reconstruction.
 - The public and private sectors work together to consolidate earthquake-related materials into archives, and promote their use for passing on the legacy of the disaster, as well as for the advancement of disaster prevention measures and disaster research.
- (2) Contribute to strengthening disaster prevention and recovery measures around the world by disseminating both domestically and internationally information on the status of recovery, and lessons learned and know-how gained from the earthquake, and tie these efforts to ongoing support for recovery efforts in the affected areas.
 - Affected local authorities continuously disseminate information on the status of recovery by holding forums, etc., and summarize and share lessons learned and know-how gained from efforts related to recovering and rebuilding from the earthquake.
 - Communicate the state of recovery in affected areas and lessons learned from the disaster to the international community by inviting international conferences to the affected areas, and providing opportunities to report on the state of recovery internationally.

65) Preservation of disaster heritage sites and development of disaster legacy centers

- [Issues] (1) How to build consensus on the preservation of earthquake-damaged sites.
 (2) How to set up, maintain, and manage bases for passing on the legacy of the earthquake disaster.

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Preserving earthquake remnants with the participation of local residents (Issues [1] and [2])**
 Ishinomaki City, Miyagi Prefecture, established the Ishinomaki City Disaster Heritage Sites Coordinating Council to deliberate on issues and maintenance costs that would arise if the Kadonowaki Elementary School building and Okawa Elementary School building were to be preserved as disaster heritage sites. Later, "Disaster Heritage Site Study Councils" were formed to listen to various opinions and formulate a policy for their development.
- **Integrated development of Reconstruction Memorial Parks, disaster heritage sites, and memorial museums through cooperation among related parties (Issue [2])**
 When the national government collaborates with local public authorities in building memorial parks developed by local governments in Iwate, Miyagi, and Fukushima Prefectures, the national government develops national government-managed facilities for memorial and prayer in the form of installing hills, plazas, etc., that serve as the core facilities of these parks. In Rikuzentakata City, the "Takata Matsubara Tsunami Reconstruction Memorial Park" was built, and a Memorial Museum, Disaster Heritage Site, and other facilities were integrated on the park's premises.
- **Networking disaster legacy groups and facilities via the 3.11 Legacy Road (Issue [2])**
 By networking different Disaster Memorial Facilities, the 3.11 Densho Road Promotion Organization, in cooperation with the Disaster Legacy Network Council, promotes the popularization and spread of activities to pass on the memories and experiences from the disaster by publicizing Disaster Memorial Facilities in an easy to understand way.

[Lessons and Know-How Gained]

- (1) With respect to the preservation of disaster remnant sites, allocate a sufficient period of time to gather and consider diverse opinions.
 - With respect to the preservation of earthquake disaster sites, establish a forum for dialogue consisting of diverse entities, including government agencies; businesses in commerce, industry, and tourism; residents; and experts.
 - Give careful consideration to the timing and duration of dialogue as public opinion may shift over time.
- (2) Public and private sectors collaborate and cooperate in the development and maintenance of Disaster Memorial Facilities.
 - Attract visitors by developing locations with convenient transportation, and by integrating tourist facilities with facilities for having personal interactions.
 - Secure funds for maintenance and management through a variety of methods, including donations and fundraising, as well as public funds.
 - Form a network of Disaster Memorial Facilities, etc., and carry out activities to pass on lessons learned from the disaster that are consistent throughout all affected areas.

66) Passing down memories, records, and experiences from the disaster

- [Issues] (1) How to create programs that make use of experiences from the earthquake.
 (2) How to foster the next generation of leaders who will be passing on the legacy

[Initiatives in the aftermath of the Great East Japan Earthquake]

- **Integrated development of memorial facilities and commemorative facilities, facilities for having personal interactions, and online guides (Issue [1])**
 Kamaishi City, Iwate Prefecture, has built an integrated destination conveniently located just outside of Unosumai Station consisting of the Tsunami Memorial Hall, a facility that passes on the legacy of the disaster and promotes learning about earthquake disaster prevention; the Kamaishi Memorial Park, a memorial facility; and a central facility where tourists can enjoy personal interactions. The facility also features online storytelling, and tours of the facility.
- **Proactive activities to pass on the legacy by young people who will be leading the next generation (issues [1] and [2])**
 Students from the Onagawa Junior High School in Onagawa Town launched their Onagawa Stone Monuments for Life Project whose aim was to erect "Onagawa Stone Monuments for Life" at elevations higher than tsunami wave heights at all of the town's beaches. After graduating from junior high school, the students have been engaged in creating the "Onagawa Textbook of Life."
- **Creating a forum for sharing issues related to activities to pass on the legacy of the earthquake disaster and disseminate this information nationwide (Issue [2])**
 Since March 2016, the National Symposium on Storytelling in Disaster Areas has been held annually in Minamisanriku Town, Miyagi Prefecture, and elsewhere to introduce and exchange opinions on various efforts to prevent the disaster from fading away in people's memories and to pass it on to future generations.

[Lessons and Know-How Gained]

- (1) Develop programs that pass on the legacy of the earthquake in which people can learn about the earthquake in an effective way to prevent a repetition of the tragedy.
 - Create programs that enable people to effectively relive their experiences of the disaster, such as storytelling by disaster survivors, tours of disaster heritage sites, and experiential learning.
 - The sustainability and usefulness of activities can be enhanced through collaboration and cooperation among government agencies, local residents, NPOs, and schools in passing on the legacy of the earthquake, and in addition to these activities to pass on the legacy, by combining tourism and industry.
- (2) Support the creation of opportunities for people to involve themselves in activities for passing on the legacy of the earthquake and disaster education and support the continuation of these activities.
 - Provide opportunities for younger generations to involve themselves in activities to pass on the legacy of the disaster and disaster prevention activities in schools and communities so that they can learn about the importance of communicating their experiences of the disaster and also learn how they can · Provide learning opportunities where people can acquire knowledge and skills necessary to pass on the legacy of the earthquake disaster, and also provide grants to support the planning and continuation of such activities.
 - Provide learning opportunities where people can acquire knowledge and skills necessary to pass on the legacy of the earthquake disaster, and also provide grants to support the planning and continuation of such activities.
 - Government agencies, etc., share the conditions and issues associated with activities being carried out in different regions for passing on the legacy of the earthquake, and provide forums for disseminating this information nationwide to connect these to the spread and expansion of these activities.