Job Creation after Catastrophic Events: Lessons from the Emergency Job Creation Program after the 2011 Great East Japan Earthquake

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This paper aims to present lessons learned from the Emergency Job Creation (EJC) program conducted by the Japanese government during the process of recovery from the 2011 Great East Japan Earthquake disaster, based on statistical analysis of the EJC program and an interview survey of several projects in Minamisanriku town. The EJC program is very similar to the Cash for Work (CFW) programs that are often used as a tool for social safety nets (SNNs) in developing countries, although the EJC program was basically a policy tool aimed at reducing unemployment, while CFW is aimed at pursuing recovery efforts and ensuring people's participation in those efforts, in addition to reducing unemployment. In fact, statistical analysis shows that the number of EJC participants is rather higher in municipalities with severe damage than in municipalities with lower labor demand. The results of the interview survey also reflected this, and revealed that the EJC program was also used for human resource development. Drawing on findings from the interviews, we conclude our study by identifying the three important factors that made EJC efficient: 1) the timeliness of commencing the program, 2) the sufficiency of the program funds, and 3) the flexibility with which the funds could be used, which enabled many local organizations to create new forms of cooperation.

I. Introduction

This paper focuses on the job creation activities that were pursued during the recovery from the major earthquake and tsunami that struck northeastern Japan on March 11, 2011.

The earthquake, which was centered offshore, is the largest recorded in the area of Japan since records began, with a magnitude of 9.0 on the Richter scale, and seismic intensities as high as 7.0 on the Japanese seismic scale. While the earthquake's tremors caused many buildings to collapse, the massive tsunami it triggered brought even graver damage. With wave heights of over ten meters in places and a maximum run-up height (height onshore) as high as 40.1 meters, the tsunami caused catastrophic damage to the coastal areas. The disaster claimed around 19,000 lives (dead or missing), and around 90% of fatalities were due to drowning as a result of the tsunami. The cities, towns, and villages in the coastal areas suffered devastating damage, and it is estimated that by the third day after the

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disaster initially struck as many as around 470,000 people were taking refuge at evacuation facilities. In addition to the earthquake and tsunami, the serious accident at the Fukushima Dai-ichi Nuclear Power Plant has released large amounts of radionuclides into the air and contaminated surrounding lands. This accident resulted in approximately 154,000 people leaving their homes (81,000 under mandatory evacuation orders, and 73,000 voluntarily).

One of the policy concerns for the government during the disasters was to secure the livelihood of the evacuees. One private think tank published a report in May 2011 estimating that roughly 140,000–200,000 people had lost their jobs because of the disaster. To address this issue, the Japanese government quickly implemented the Emergency Job Creation (EJC) program, reinforcing the program's funds with as much as 400 billion Japanese yen in total.

The primary objective of this program was to create job opportunities for the people who became unemployed due to the disaster. However, as we will discuss in the following section, a substantial amount of program funds was used as subsidies for local governments and organizations such as cooperatives, neighborhood associations, and NPOs, to allow them to hire local people to pursue activities related to the disaster and the recovery process. In addition to pursuing such initiatives, many of the projects under the EJC program also seem to have reinforced social ties among local people, and provided them with relief from the stresses of life. Such effects are often recognized as a result of Cash for Work (CFW) programs in developing countries.

In order to verify the positive impacts of the aforementioned EJC program, we conducted a field survey from July to December, 2012, interviewing sixteen organizations that were undertaking EJC projects in eleven municipalities across the prefectures of Iwate, Miyagi, and Fukushima. In this paper, we focus on examples from the town of Minamisanriku in Miyagi prefecture to investigate how the EJC program contributed to the recovery process of the disaster-affected area. Our primary conclusion is that the EJC program funds were mostly used for pursuing the recovery of the area rather than reducing unemployment. The flexibility of the program enabled many local organizations to create jobs for the local people, while also providing those people with opportunities to participate in the recovery process.

Section II of this paper describes the EJC program, and discusses the state of employment support in the affected areas, while also drawing on insights from prior research. Section III introduces examples of projects that were conducted in Minamisanriku, on the basis of the insights gained from the interview survey. In Section IV, we would like to consider how support for the employment of disaster victims in reconstruction following disasters needs to be developed, by looking at the efficacy of and issues related to the EJC program.

Table 1. Number of Participants by Fields and Prefectures

Project fields	Iwate	Miyagi	Fukushima	Total
Nursing care/welfare	1,011	1,788	2,633	5,432
Childcare	262	1,026	648	1,936
Medical work	121	551	614	1,286
Industrial development	3,456	3,207	5,964	12,627
Information & communication	816	927	800	2,543
Tourism	1,140	1,437	1,958	4,535
Environment	1,892	2,143	3,887	7,922
Agriculture and fishery	5,479	3,265	2,608	11,352
Safety	351	2,934	3,815	7,100
Education and environment	1,189	6,216	4,870	12,275
Other	4,270	11,243	22,772	38,285
Temporary civil officers	2,604	11,518	7,317	21,439
Not categorized	44	24		68
Total	22,635	46,279	57,886	126,800

Source: Labor divisions of Iwate, Miyagi, and Fukushima prefectural governments.

II. Job Creation in Japan after the 2011 Disasters

1. The Emergency Job Creation (EJC) Program

The Japanese government implemented the Emergency Job Creation (EJC) program immediately after the disasters that occurred in March 2011. The program was based on the national government providing funds for local governments and private businesses to employ disaster victims who had lost their jobs, and engage them in activities related to disaster response, recovery, and reconstruction. The total amount of funds allocated for this program during the two-year period after the disasters was 400,000 million Japanese yen (3,800 million US dollars).

Table 1 shows the number of participants in the EJC program by project field and prefecture. A total of 126,800 people participated in the program from FY 2011 to FY 2015, of which 57,886 people (45.6%) were participants in Fukushima prefecture.

The reason for Fukushima's prominent use of EJC funds is partly because Fukushima prefecture required many laborers for radiation monitoring and decontamination, and for patrolling the mandatory evacuation area. In other areas, there were many people who needed temporary work, because large numbers of farmers, fishermen, and self-employed workers lost their livelihood due to the mandatory evacuation (Nagamatsu 2014).

The EJC program is very similar to the Cash for Work (CFW) program, which is well known as a means for providing a social safety net (Honorati et al. 2015). CFW is a program aimed at assisting people who lack a means of subsistence by providing cash in return for their work in reconstruction in the wake of disasters or humanitarian emergencies, and this is commonly accepted as a technique of humanitarian assistance by international NGOs.

There are many examples of CFW, such as in the processes for recovering from the 2005 Indian Ocean Tsunami (Doocy et al. 2006) and incidents of drought in Kenya and Afghanistan (Lumsden and Naylor 2002; Harvey and Bögel 2009), and its applicability has been expanded to other natural disasters, such as cyclones (Myanmar Red Cross Society 2010), earthquakes and tsunami (Doocy et al. 2006; Échevin 2011), military conflicts (Harvey and Bögel 2009) and financial crises (Andrews et al. 2011).

However, there are three major differences that have been observed between EJC and CFW: 1) There is a wider variety of jobs under EJC in comparison with CFW, 2) the policy objectives differ; namely, EJC is designed for creating jobs, while CFW is aimed at providing livelihood assistance, and 3) whereas EJC projects are required to fully comply with labor laws, this is not required of CFW projects (Nagamatsu 2016).

Another difference that should be noted is that in previous projects in developing countries CFW has not only acted as a means for creating jobs, but has also in many cases been acknowledged to have encouraged local people to participate in recovery processes and strengthened social ties among the affected people (Myanmar Red Cross Society 2010; Mercy Corps 2007).

2. EJC Funds as Subsidies for Recovery Activities

Local governments and organizations that were eligible for the EJC program regarded it as a program for subsidizing their activities related to the disaster. The program was in fact very useful for them, and involved relatively few burdens in terms of paperwork. All that organizations that applied to establish EJC projects had to prove was how many workers were employed, whether the workers were eligible for the program, and whether they paid fair salaries for the workers. The actual content of the work was beyond the concern of the Japanese government, because the program's policy objective was job creation.

Because of its simplicity and flexibility, the program was generally welcomed by local governments and organizations that are responsible for disaster management and recovery. As a result, the program was used more to tackle the severe damage, for which there was a high demand for labor from local organizations, rather than where job opportunities were scarce.

Table 2 shows the results of cross-section regression analysis on the scale of the EJC program over the jurisdictions of public job placement offices (known as "Hello Work"). The dependent variable is a ratio of participant numbers over total population, while the explanatory variables are the job opening ratio and the ratio of housing that collapsed due to the disasters. We ran the regression model over 28 jurisdictions for each year from 2011 to 2013. The collapsed housing variables are significant at 1% in every regression, while job opening ratios are not. This result is strong evidence that EJC program funds were used for recovery promotion, rather than unemployment reduction. In this sense, we could say that in practice the EJC program shared a similarity with CFW.

Table 2. Results of Regression Analysis on the Scale of the EJC Program

Dependent Variable	Number of participants / population					
Number of observation	28		28		28	
Year	2011		2012		2013	
Constant	0.703	*0.566*	0.589	*0.239* *	0.055	*0.231*
Job opening ratio	-0.503	*0.714*	-0.278	*0.236*	0.127	*0.192*
Totally collapsed housing ratio	3.248	*1.037* **	3.940	*0.623* **	2.862	*0.675* **
R squared	0.396		0.703		0.547	

Notes: Numbers in italics represent standard deviation.
* and ** denote 5% and 1% significance respectively.

III. Examples from Minamisanriku in Miyagi Prefecture: Projects Aimed at Maintaining the Town's Mainstay Industries and Stopping Population Outflow

This section draws on insights gained from an oral survey conducted in summer 2012 in the town of Minamisanriku in Miyagi prefecture, one of the areas affected by the 2011 earthquake and tsunami, to examine the role that the EJC program played in the reconstruction of the local area and in what ways the EJC program functioned similarly to CFW.

1. Profile of Minamisanriku and State of the Disaster

Minamisanriku is a small coastal town in Miyagi prefecture in northeastern Japan. In February 2011, prior to the earthquake disaster, it had a population of around 18,000 people. The town is surrounded on three sides by 300–500 meter high mountains, and to the east of the town Shizugawa Bay opens onto the Pacific Ocean. Its main industries are fishing and seafood processing, and in addition to catches of high-quality, natural coastal fish such as sea urchin and flatfish, the aquaculture of oysters and scallops is also thriving, and the salmon swim upstream in the fall. The town has also worked hard to develop its tourism industry, drawing on the assets of its rich natural environment. A high

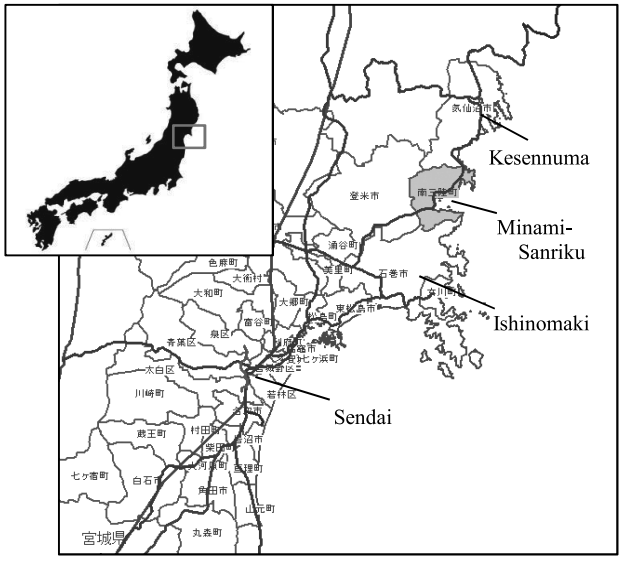

Figure 1. Location of Minamisanriku, Miyagi prefecture

percentage of Minamisanriku's residents are employed in the town (namely, it is not the commuter town of a neighboring city), and it was already encountering population aging and population decline prior to the disaster.

The seismic intensity recorded in Minamisanriku at the time of the earthquake on March 11, 2011, was a 6-lower on the Japanese seismic scale (a "moderately severe" earthquake). While only a limited number of buildings collapsed due to the tremors, the damage caused by the tsunami was immense. Reaching maximum heights of over 20 meters, the tsunami flooded 52% of the land used for buildings, damaging as much as around 3,311 buildings (a damage rate of approx. 62%), and claimed the lives of as much as 5% of the town's population (620 dead and 212 missing).[1] Government functions were paralyzed, as the tsunami engulfed and destroyed both the town hall and the adjacent government disaster prevention facility, a three-story heavy steel frame structure. The public transport system was also heavily damaged, as the tsunami also completely devastated the train route operated by Japan Railway between Kesennuma Station and Yanaizu Station, as well as destroying Shizugawa Station, the center of transport for Minamisanriku.

The catastrophic damage to the fishing and marine product industry in Minamisanriku meant that large numbers of people immediately lost their means of making a living. If people move away from a town even temporarily in search of work, they may not necessarily return, even if the town's infrastructure is restored. Once the people are gone, the town will not be able to maintain its industry, and will go into decline. Minamisanriku therefore needed a means of maintaining its residents' livelihoods until it had recovered.

2. Overview of the EJC Program in Minamisanriku

Minamisanriku had the highest percentage of people employed using the EJC program,[2] even among the affected municipalities in Miyagi Prefecture. In FY 2011, a total of 453 people were employed under the EJC program in Minamisanriku. Table 3 shows the numbers of people employed for each of the EJC projects that year, with the projects organized in order of the number of people they employed, starting with the project that employed the highest number of people.

The "Project for Supporting the Livelihood of Tsunami Evacuees," which was involved in supporting evacuation centers and temporary housing, employed around 150 people, the highest number of employees among the projects. The "Project for Maintaining Demarcated Fishing Grounds," aimed at securing channels within Shizugawa Bay as a means of assisting the restoration of the fishing industry, and maintaining the demarcation boundaries of the aquaculture facilities, employed 66 people. The projects in field number

[1] Official figures from Minamisanriku, dated November 1, 2012.

[2] The "percentage of people employed under the EJC program" is the number of people employed for EJC projects (projects providing emergency employment measures in response to disasters, etc.) (figures for 2011) as a percentage of the working-age population in the relevant municipality (figures for 2010). The percentage in Minamisanriku was 7.5%.

11 are for hiring "temporary staff for general administrative support, etc." Many such people are directly employed by Minamisanriku town, due to the huge amounts of documentation and administrative work involved in reconstruction.

Table 4 shows numbers of people employed for EJC projects tabulated according to whether the project is a project commissioned to an external organization or a project directly implemented by the town government, and according to the field of the project, as shown in the left-hand columns of Table 3. Commissioned projects account for 85.2% of all people employed. Looking at the different project fields, the percentages of people employed for projects in "care/welfare" and "agriculture, forestry, and fisheries" are high. It can be seen that projects in other fields also used EJC program funds for various initiatives aimed at the recovery and reconstruction of the town.

People directly employed by the town government for EJC projects receive wages of 840 yen per hour, the prescribed hourly wage for the town's temporary workers. Wages for commissioned projects are essentially entrusted to the project organizer, but are generally around 9,000–10,000 yen per day. This wage is more or less the market rate, but there are cases in which employees receive better labor conditions than in the case of other enterprises, due to the fact that project organizers are obliged to enroll their employees in social insurance schemes without fail. This has led to claims that the EJC program is placing pressure on private sector businesses, as seafood processing businesses in the town are unable to attract sufficient staff despite posting job advertisements. It is difficult for employment support projects for disaster victims to achieve the balance of protecting the local residents' livelihoods and encouraging the independence of local industry, while also scaling back and withdrawing. While it is said that the EJC projects in Minamisanriku helped to prevent population outflow directly after the disaster, the population has decreased rather significantly. In fact, the town's population fell from 17,666 people in late February 2011 (namely, prior to the disaster) to 15,419 people one year later in late February 2012, a decrease of 2,247 people (12.7%). The town faces the challenge of converting the temporarily-created sources of employment into the ongoing sources of employment for the local area.

Table 3. EJC Projects in Minamisanriku (FY 2011)

*Workers employed under the EJC Program

Type Note (1)	Field Note (2)	Name	Content	Total no. of workers *
1	1	Project for Supporting the Livelihood of Tsunami Evacuees	(1) Conducts whereabouts surveys of persons who evacuated to outside the town, and ascertains and composes data on the location of all town residents following evacuation. (2) Provides information magazines and other such sources of information to disaster victims outside the town on an ongoing basis. (3) Employs staff to visit evacuation facilities in and outside the town to listen to disaster victims to curb their feelings of isolation or anxiety. (4) Assigns lifestyle counsellors to temporary housing areas. (5) Provides staff for coordinating communication with temporary housing. (6) Provides staff to promote local community development. (7) Improves the systems for distributing food, supplying water, and providing shopping services. (8) Provides staff for improving the environments around the evacuation centers.	149
1	8	Project for Maintaining Demarcated Fishing Grounds	Secures channels in the bay and improves, etc. the demarcations of each aquaculture facility, with the aim of assisting the recovery of the fishing grounds.	66
1	7	Project for Supporting the Maintenance and Management of Water Supply Facilities, etc.	Supports the maintenance and management of each water supply facility, etc. in Minamisanriku. Activities include facilities inspection, replenishing chemical agents, and meter reading, etc.	36
2	11	Temporary Staff for Earthquake Disaster Response, etc.	Employs disaster victims as temporary staff to provide general administrative support, etc.	26
1	7	Project for the Post-Earthquake Disaster Reconstruction and Maintenance of Public Facilities	Conducts activities such as felling trees on town roads, agriculture and forestry roads, and other such surrounding facilities that sustained salt damage due to the tsunami.	25
1	10	Project for Restoring and Maintaining Cultural Assets Affected by the Disaster	Under guidance from experts, conducts fact-finding surveys of affected cultural assets (tangible/intangible cultural assets, buried cultural properties, and historical records), surveys and investigates the state of damage, and means of preserving or restoring, etc. the assets, and maintains a preservation and management register of cultural assets. Also compiles a database of and organizes and displays the exhibits, etc. of the town 's museums (the Gyoryukan [fossils and folk material], Minzokushiryokan [folk material] and Denshukan [folk material]). Alongside these activities, collects and preserves materials related to the disaster and compiles materials that can be used for disaster prevention education, etc.	20
1	4	Project for Supporting the Recovery of the Minamisanriku Marine Products Industry	Seeks to ensure the prompt establishment of the chain of primary production systems, by ascertaining the actual state of damage in the process of conducting individual interviews, etc. with each union member based on a format, as well as tabulating data by category in order to clarify the situation, and engaging in disseminating information, such as introducing the various financing systems for stabilizing household fishing businesses.	14
1	4	Project for Supporting the Reconstruction of the Minamisanriku Aquaculture Industry	Conducts administrative work toward developing projects for supporting the recovery of fishing and aquaculture, etc. ("Ganbaru Gyogyō /Yōshokugyō Shien Jigyō", etc.) over the three years from 2011 to 2014 (four years for oysters), and administrative work for constructing and reconstructing fishing vessels affected by the disaster.	14

Type Note (1)	Field Note (2)	Name	Content	Total no. of workers *
1	4	Project for Promoting Small-Scale Production Centers at Evacuation Shelters	Employs disaster victims, etc. and other unemployed people to conduct small-scale production, such as sewing and creating daily commodities, ornaments, and electrical parts, and crafting articles of folk handicraft, such as *mayu-saiku* (cocoons crafted into small figures).	13
1	9	Project for Night-time Security at Evacuation Shelters	Assigns night-time security staff to temporary facilities in the town, to ensure an environment in which disaster victims can go about their lives feeling secure.	12
2	11	Project for Restoring and Maintaining Tax Rolls	Surveys houses, etc. swept away or damaged by the disaster, and restores and maintains tax rolls.	12
1	8	Project for Developing Community Farms for Disaster Victims	In addition to the cultivation of vegetables, greenhouse horticulture, and planting of flowers, also carries out work to provide foodstuffs and ornamental plants. Alongside this, pursues the interaction of victims and the Iriya district through farming. Makes several varieties of rice balls using rice produced in the local area and sells them at direct sales outlets, and produces and sells pickles made with a traditional secret recipe unique to the rural area. Also plans to develop the product such that it can be sold nationwide as pickles for promoting regional recovery, if possible.	10
2	11	Project for FM Broadcast for Temporary Disaster Countermeasures	Establishes community FM broadcast stations based closely in the local community, and transmits lifestyle information, disaster prevention information, and administrative information to disaster victims. Carries out the related reporting, writing scripts, operating equipment, and announcing, etc., to create the broadcasts.	8
1	8	Project for Restoring Regional Agriculture	(1) Support for relaunching the agricultural businesses of affected farmers. (2) Promoting the sales of crops for which production decreased due to the disaster. (3) Acquisition of further techniques toward relaunching agricultural business. (4) Creating new farmers through activities related to agricultural business.	7
2	7	Project for Managing Transport Lines for Disaster Reconstruction Supplies	Activities include weeding, repairing, and removing and melting snow on town roads, etc.	7
1	4	Project for Promoting the Development and Sales of Minamisanriku Reconstruction Goods	Develops new products such as popular local mascot “Octopus-kun,” and works with other organizations to develop souvenir products such as octopus lunch boxes and sweets, as well as actively pursuing activities to promote sales online and at events.	5
1	6	Project for the Reconstruction of Tourism Resources	Establishes a foothold for local recovery, by creating a Rakuten online-shopping site, and provides services to match local providers of resources such as natural scenery and foods with companies in the travel and tourism industry, with the aim of recovering such tourism resources.	4
2	11	Project for Providing Nursing Assistants	Provides nursing assistants to relieve the burdens on nursing staff at the Shizugawa Municipal Hospital (damaged by the disaster, reopened at a new location in June 2011) in turn providing assistance for hospital inpatients, etc.	4
1	8	Project for Surveying the Regeneration of the Regional Fishing Industry	Regularly surveys the habitat of the seaweed and other such sea-bottom fauna and plankton in the coastal zones of Utatsu and Shizugawa, obtaining basic information regarding the environment of coastal zones, which has an influence on the recovery of the marine products industry.	3

Type Note (1)	Field Note (2)	Name	Content	Total no. of workers *
1	4	Project for Conducting Odd Jobs in the Disaster-Affected Areas	Carries out odd jobs for disaster victims in evacuation centers and temporary housing, improving convenience for affected residents, and developing an area that is comfortable to live in.	3
2	3	Project for Facilitating the Provision of In-house Prescriptions	Temporarily employs pharmacists, to facilitate the prescription of medication for outpatients, given that the Shizugawa Municipal Hospital has become the town's only medical facility due to the disaster, and as it is difficult for the staff of the hospital to handle in-house prescriptions.	3
1	9	Project for Recording the Post-Earthquake Disaster Reconstruction	Photographing/filming the disaster area and creating deliverables.	2
1	5	Project for Restoring Basic Data regarding Commerce and Industry	Collecting, organizing and conducting data entry on information on members of commercial and industrial associations.	2
2	11	Project for Picking Up/Dropping Off Outpatients	Operating a pick-up/drop-off bus service for hospital outpatients.	2
2	3	Project for Enriching Outpatient Services	Provides assistance to outpatients of the internal medicine and dental surgery department, given that the Shizugawa Municipal Hospital has become the only medical facility due to the disaster.	2
2	11	Project for Providing Medical Assistants	Checks the inspection and billing of inpatient and outpatient itemized medical statements of expenses, and manages these statements, etc.	1
2	11	Project for Cost-Free Employment Placement Services	Restores the various data that was lost in the disaster, and regulates, etc. the employment environment of disaster victims.	1
2	11	Project for Providing a General Assistance Service for Public Transport	Establishes information services for each public transport facility (town buses, Japan Railway, and Miyagi Transportation, etc.) and provides information on operations of fixed-route buses in each direction, and takes reservations for the highway bus that travels to Sendai once a week.	1
1	10	Project for Supporting the Regeneration of the Utatsu District Disaster-Affected Community	(1) Edits and creates *Ittō,* the community information magazine for the Utatsu area. (2) Receives and assists support organizations from around Japan. (3) Livelihood support for emergency temporary housing (delivery of relief supplies). (4) Producing and selling goods related to the disaster (T-shirts and caps, etc.)	1

Source: Data obtained at the time of the survey.

Notes: (1) Project type: 1. Project commissioned to an external organization, 2. Project directly implemented by the town.

(2) Project field: 1. Nursing care/welfare, 2. Childcare, 3. Medical work, 4. Industrial development, 5. Information & communication, 6. Tourism, 7. Environment, 8. Agriculture, forestry, and fishery, 9. Safety/Disaster prevention, 10. Education/culture, 11. Temporary staff for general administrative support, etc.

Table 4. Numbers of People Employed by EJC Projects in Minamisanriku by Project Type and Field (Figures for FY 2011)

		(No. of people)	(%)
Total		453	100.0
Project type			
	Commissioned project	386	85.2
	Directly-implemented project	67	14.8
Project field			
	Nursing care/welfare	149	32.9
	Agriculture, forestry, and fishery	86	19.0
	Environment	68	15.0
	Temporary staff for general administrative suppor	55	12.1
	Industrial development	49	10.8
	Education/culture	21	4.6
	Safety/Disaster prevention	14	3.1
	Medical work	5	1.1
	Information & communication	2	0.4
	Tourism	4	0.9

Source: Tabulation of data obtained at the time of the survey.

3. Specific Case Studies of EJC Projects

As part of the interview survey conducted in 2012, we interviewed the organizations commissioned to conduct EJC projects in Minamisanriku. From among the organizations surveyed, here we will look at the Shizugawa Branch of the Miyagi Prefecture Fisheries Cooperative, the Marine Learning Center, Minamisanriku Tourism Association, and the Minamisanriku Social Welfare Council, to investigate how EJC program funds have been used and the issues faced by the projects.

The Shizugawa Branch of the Miyagi Prefecture Fisheries Cooperative

The Shizugawa Branch of the Miyagi Prefecture Fisheries Cooperative (hereafter, "the Fisheries Cooperative") has jurisdiction over Shizugawa Bay in Minamisanriku. It comprises of around 800 members. The damage caused by the disaster was immense, and damage from the tsunami led to the loss of 94.9% of the 1,075 fishing vessels in the bay prior to the disaster, a reduction to just 55 vessels. Production volumes were struck gravely, with production volumes for FY 2011 decreasing by approximately 99% in comparison with the previous fiscal year for Class 1 common fishery products such as abalone and sea urchin, and by 90% in comparison with the previous fiscal year for Class 2 common fishery products such as seaweed and sea squirt. Business premises such as the branch offices and local offices that stood directly on the edge of the bay were also totally destroyed.

Without aquaculture rafts and fishing vessels, fishermen cannot work. If they cannot work, they are not able to make a livelihood. To address this, the Fisheries Cooperative used

the EJC program to establish a project to engage fishermen in activities to restore the fishing grounds, thereby giving them a means of keeping up their livelihoods until there was a prospect of the fishing industry recovering. The project entrusted to the Fisheries Cooperative employed a total of 80 people in FY 2011, of which 66 worked on the "Project for Maintaining Demarcated Fishing Grounds" and 14 worked on the "Project for Supporting the Recovery of the Minamisanriku Marine Products Industry." The "Project for Maintaining Demarcated Fishing Grounds" regulates the demarcations of the fishing grounds in Shizugawa Bay, to allow for the efficient use of the bay. The channels had always been narrow and inconvenient, but it had not been possible to do anything to address this prior to the disaster, partly due to the rights claims of the fellow owners. This project drew on the fact that everything was swept away by the tsunami as an opportunity to investigate and implement reform to ensure the improvement of the fishing grounds for the future. Those employed by the project are largely members of the Fisheries Cooperative. The "Project for Supporting the Recovery of the Minamisanriku Marine Products Industry" conducts administrative work such as ascertaining the actual situation of people involved in the fishing industry who were affected by the disaster, and tabulating the information by category. It carries out administrative work related to the project for maintaining the fishing grounds, and the increasingly huge amounts of administrative backup work required in the post-disaster recovery process. The people employed for this project are former employees of ordinary companies, and more than half of them live in temporary housing.

The Fisheries Cooperative faces the tasks of securing income for its members and securing personnel for implementing reconstruction projects. The cooperative's staff, which was made up of 30 people prior to the disaster, decreased to around 20 people, and it is unable to secure the personnel it needs. Nevertheless, the Fisheries Cooperative stated that it would not be possible for their organization alone to pursue the reconstruction of the fishing industry, "without the support provided by such emergency employment." It said that the EJC program plays a significant role by supporting the "labor costs" for pursuing reconstruction projects.

The Marine Learning Center

The Marine Learning Center is an incorporated nonprofit organization that has an office in the building where the Minamisanriku fish market is located. Its head office is in Okinawa prefecture, but since the disaster it has responded to requests from the town to carry out the work that was formerly conducted by the town's fisheries laboratory and to conduct measurements of the radioactivity of the marine products and the environment. Such measurements conducted by third-party organizations are important for ensuring that the trade of marine products is not adversely affected by damaging rumors.

The Marine Learning Center received EJC program funds to implement the "Project for Surveying the Regeneration of the Regional Fishing Industry" (commissioned in FY 2011). There are four people working at said office, and the three employees other than the

office leader are employed with funds from the EJC program.

The project leader, interviewee A, is a specialist in marine research who relocated from Tokyo for the position. He provides guidance to the other three staff members on methods of measuring radioactivity, and how to use the equipment, etc. He made the decision to relocate to Minamisanriku on the basis of his determination to help in reconstruction activities, which was inspired by his experiences staying in the town for an internship during his time in university. However, as interviewee A does not fit with the requisites for employment under the EJC program, in practical terms his labor costs are paid by the organization.

There are three disaster victims employed by the project, and many people have applied for positions not only because they are seeking work to uphold their livelihoods, but also based on their interest in the environment. For instance, interviewee B has experience carrying out activities such as conducting forest tours and acting as a nature guide for a community development organization. Interviewee C also stated that she had an interest in the marine environment, due to the fact that her husband is involved in the marine products industry, and because she has children.

The wages for employees of this project are around 180,000 yen per month. This is a little low in comparison with those for projects conducted by other commissioned organizations. However, interviewee C states that "being able to enroll in social insurance is the greatest appeal" and that she was not able to enroll in social insurance in the part-time job she worked in previously. Interviewee B also highlights the fact that in the area it is typical that people, even regular employees, are not members of employees' pension at all, and are lucky if they have employment insurance or industrial accident insurance. In other words, the interview survey revealed that the issue of the competition between the regional labor market and the EJC program is not related to how high or low wages are set or other such factors, but the fact that EJC projects are obliged to enroll in social insurance schemes.

The Minamisanriku-Cho Tourism Association

In addition to its marine products industry, in recent years Minamisanriku has also been investing efforts into its tourism industry. It established a general incorporated association called the Minamisanriku-Cho Tourism Association and set out plans for tours that take advantage of the abundant gifts offered by the surrounding mountains and sea. The 2011 disaster occurred just as it was about to put the project on track.

Under the EJC program, the association was commissioned to implement the "Project for the Reconstruction of Tourism Resources," for which it employed four people in FY 2011, and 11 people in FY 2012. The project's objective is to implement initiatives to reconstruct the area's tourism resources and in the process to train the talented young people to play leading roles in the area in the future, and therefore employs five young people between the ages of 20 and 35. At 150,000–170,000 yen per month, the current wages are certainly not high, but they are reasonable in comparison with wages for local part-time jobs,

which are set only just above the minimum wage. The association is hoping to switch to employing staff using its own financial resources by the end of the EJC program.

One of its activities is an open-air market, called the "Fukkō-ichi," which is principally run by the proprietors of shops in the shopping street, known as "O-Sakana-dōri," which is visited by tourists and customers from the town. It was launched on April 29, 2011, just a month and a half after the disaster, and has been held once a month since then. It therefore acted as a place for the local people to reunite and played a role in deepening local ties very shortly after the disaster. As cosponsor of the market, the Minamisanriku-Cho Tourism Association provides staff to set up and carry out administrative backup support.

Minamisanriku's shopping street (Shizugawa O-Sakana-dōri Shōtengai) is a member of a national organization of shopping streets known as the "Bōsai Asaichi Network," through which it received support from a shopping street in Sakata, Yamagata prefecture (Sakata Naka-dōri Shōtengai) directly after the 2011 disaster, with transport vehicles constantly shuttling back and forth to bring relief goods to the town. This has been described as "the system for 'support from next-door,' which had been practiced for three years, going into full action."[3] Through this network, products have been delivered to the Fukkō-ichi from across Japan, and the staff to sell them have also gathered at the market from across the country.

The Fukkō-ichi event gathered as many as almost 100 volunteers, with large numbers of corporate volunteers from major corporations and volunteers from outside of the town participating. The association states that by taking on large numbers of volunteers they seek to ensure that those volunteers become fans of Minamisanriku who will repeatedly return to visit in the future. They stated that in order to pursue recovery, it is important to have the capacity to take on and take charge of large numbers of volunteers. The association does this by taking on the role of connecting Minamisanriku with national networks and other supporters from outside of the town, such as corporations and volunteers, and creating and organizing opportunities for them to pursue activities.

The Minamisanriku Social Welfare Council

Around 1,570 of Minamisanriku's households—a third of town residents—lost their homes. These people therefore live in the more than 2,200 purpose-built temporary houses (*kasetsu jūtaku*) that are dotted around the town in 59 locations, and 747 households are living in privately-rented accommodation known as "*minashi kasetsu*," literally, "accommodation that is deemed to be temporary housing" (hereafter "deemed temporary houses"; rent is paid by the government).[4] The Minamisanriku Social Welfare Council was commissioned to implement the "Project for Supporting the Livelihood of Tsunami Evacuees," to watch over the livelihoods of the people living in such housing, for which it employed 149

[3] Fujimura, 2011.
[4] Cited from Honma (2013). As of January 25, 2012.

people (FY 2011).[5]

This project provides staff who keep an eye on how the people residing in temporary houses and deemed temporary houses are doing, carrying out support by dividing into groups by local area, with three groups within the town and two groups outside of the town. This support is provided in three different forms: "travelling supporters," "live-in supporters," and "visiting supporters." The around 120 people who act as travelling supporters watch over those living in temporary houses by making visits to each house. The live-in supporters live in the same temporary housing areas and visit older people living alone and residents with health concerns twice a day, mornings and evenings. Around 100 people are engaged in activities as live-in supporters. Those who provide support, the majority of whom are older people,[6] also find that by having a "role" and engaging themselves, they feel "motivation" and "something to live for." The visiting supporters visit deemed temporary houses that are outside the town but within the same prefecture. The nine visiting supporters make their visits in three teams, and assist evacuees with their queries and concerns. Their main objective is to encourage those who have moved away from the town to feel that they wish to return home.

This assistance project's outstanding management and design has also been covered in newspaper articles and reports at university seminars, etc.[7] The high appraisal that it has received is due to the organizers' awareness of the need to "support local town residents and make them into human resources for reconstruction and development" under the principle of "utilizing the local resources and designing a project that makes returns to the local society," which generated a vision for addressing the town's population aging by training "outstanding residents"[8] to become professional "lifestyle supporters." It builds on this concept by investing its efforts into the basic training program used to train the people who become supporters.

The basic training is conducted over a period of three days, in the period between being hired and starting work, with six around one-hour classes each day, from 8:30 in the morning to 17:15 in the evening. The curriculum is taught by professionals employed by the town on assignment from various industry types. For instance, certified care workers provide knowledge on dementia, emergency medical technicians teach practical skills in emergency treatment, public health nurses provide teaching on methods of assisting older people, and the staff of the health and welfare section provide instruction on the Public Assistance Act and other such welfare systems. At the end of each day the participants work together in

[5] Implemented in FY 2012 as the "Project for Supporting the Lifestyles of Disaster Victims to Restore Livelihoods."

[6] Average age is said to be 74 years old, with the highest age 89 years old. (From Honma [2013])

[7] Honma (2013), Honma "Disaster victim support engaged in drawing on the resources of town residents: Initiatives as the Minamisanriku Disaster Victim Support Center" at the FORTUNE Miyagi Symposium in Tokyo (materials presented on March 8, 2013). Article in *Tohoku Fukkō Shimbun* (April 25, 2012). Article in the *Kahoku Shimpō* morning edition (May 29, 2012), among others.

[8] The main focus is to train "livelihood professionals (housewives)" under the project.

groups, presenting what they learned that day to each other, and thereby deepening their levels of understanding.[9]

The positions as lifestyle supporters created by this EJC project are not "jobs," but "roles in society" as residents of Minamisanriku,[10] developing the ability of the town as a whole to act as a community and provide lifestyle support on the basis of a long-term vision.

IV. Conclusion: The State of Employment of Disaster Victims Demonstrated by the EJC Program

1. Factors Explaining the Effective Role Played by the EJC Program

This paper has drawn on examples from the town of Minamisanriku in Miyagi prefecture to look at what kind of role the EJC program has played in the reconstruction of the disaster area. Let us conclude by summarizing and proposing possible policy directions.

In addition to providing measures to assist those who lost their jobs due to the disaster, Minamisanriku's EJC projects are also fundamentally based on pursuing the recovery and human development of the local area, and conduct initiatives that involve turning the disaster into an opportunity to reconsider how the local area should be developed in the future. The way that the EJC program is pursued in practice is similar to the practices of CFW programs, which were discussed in Section II.

There are several possible reasons why the EJC program played an effective role in Minamisanriku. Firstly, there is the fact that its industry is structured around fishing and other such primary industry, and many businesses are self-owned businesses and sole proprietorships. While employees of an organization or company have safety nets such as employment insurance, such business holders suffer direct blows to their livelihood when natural disasters damage their businesses. As it is also difficult for such people to switch to another profession, there was a definite necessity for a system like the EJC program to employ disaster victims, in order for them to be able to keep up their livelihood until recovery without leaving the disaster affected area.

Secondly, there is the fact that Minamisanriku is located far from a metropolitan area, and therefore a high percentage of people are employed in jobs in the town. If they are not able to secure places to work within the town, there is a higher likelihood of people moving away to find jobs, and this directly results in population outflow. If people move away from the town, there is also a low likelihood of them returning. It was necessary to generate employment in the town in order to also provide a means of preventing population outflow in the period until the town's infrastructure and industry recovered.

Thirdly, community involvement activities were already thriving prior to the disaster,

[9] *Tohoku Fukkō Shimbun* article (April 25, 2012).
[10] From Honma (2013).

and there was a clear vision for the future of the town. The project plans were also created on the basis of the town's visions for the future of its industry and human resources. Projects in the fishing industry are aimed at ensuring that the maintenance of demarcations in the bay is more effective than prior to the disaster, and projects involving staff who provide support to residents of temporary housing are conducted with a view to training professional "lifestyle supporters" to support the town as its population ages. The other projects are also devised such that they closely address what is needed for the recovery, and they project the sense that organizers frequently listen to the opinions of the fisheries cooperative, the social welfare council, and other such NPOs, and companies, neighborhood associations, and experts, etc., and incorporate the insights they gather into the measures they pursue.

It can be suggested that for an area with such characteristics, the EJC program has fitted the needs of residents with those of the government, and played a significant role in keeping people in the area. While the main objective of the EJC program is to provide measures to address unemployment, in Minamisanriku the program is not only used to support the livelihood of individuals, but also to assist the recovery of the area, thereby achieving CFW.

2. Efficacy of the EJC Program

The efficacy of the EJC program as employment for disaster victims lies in three factors: (1) the timeliness of commencing the program, (2) the sufficiency of the program funds, and (3) the flexibility with which funds could be used.

The EJC program commenced very promptly after the disaster, due to the fact that the framework for the projects already existed. In circumstances in which it was necessary to promptly pursue measures to secure means of subsistence for the disaster victims, the local government expanded the existing frameworks that it was already used to using, thereby allowing it to launch the projects within a month of the disaster occurring. This is an extremely important factor that must not be overlooked, given how long it may have taken to create completely from scratch new frameworks for supporting the employment of disaster victims. This is because in the case of natural disasters, which are difficult to anticipate, it is important that we consider how quickly emergency measures can be effectively devised following the occurrence of the disaster, rather than seeking to prevent disasters before they occur. It is therefore also important that in normal times we maintain frameworks that can be "transformed" into employment for disaster victims, even if they are just small systems, and ensure that they can be expanded at the critical moment. One example of this is establishing ongoing projects for community support, such as projects to provide "lifestyle supporters," community social workers, and crime prevention and disaster prevention committee members, etc.

In terms of the sufficiency of the program funds, local governments could not have implemented such numerous and diverse projects without the sufficient EJC funds committed by the national government. In the case of disasters such as the Great East Japan Earth-

quake, in which massive damage occurs over a wide area, the financial capacity of any single local government is not enough to afford the program. The advantage of the national government contributing 100% of operating costs is that even when the local government functions fall into disorder, the neighboring municipalities and prefectures, etc. are able to plan and implement the projects in their place. If the national government contributes the operating costs, many neighboring municipalities will make moves to pool together their human resources and provide support.[11]

In generating "flexibility in the way in which the funds could be used," it was significant that this was a public program for reducing unemployment. The principal objective of such programs is creating jobs, and there are only loose restrictions on the content of the projects that generate those jobs. As a result, it was possible for the funds to be used for all manner of projects thought to be necessary in the affected areas. However, on the other hand, it is also necessary to be careful to ensure that reviews of the effectiveness of the project itself do not tend to be too lenient. It is necessary for the local governments, which are the organizations responsible, to strictly supervise whether the funds are being used effectively for projects to reconstruct the disaster area.

A by-product of the flexibility mentioned above is the unprecedented new forms of cooperation among stakeholders that have also arisen in the affected area. For instance, NPOs, NGOs, social welfare corporations, and companies have worked together as one unit to conduct projects, supplementing each other's strengths and weaknesses as they pursue activities aimed at reconstructing the affected areas. Under the extreme circumstances, they mutually bring down their walls and seek to overcome difficulties. Such efforts have seen the birth of new initiatives and collaborations that never even occurred to people in normal times.

3. Issues

Finally, let us note two important issues that are faced in conducting support for the recovery of the disaster-affected areas.

Firstly, there is the issue of who the employment opportunities should be made available to. In the EJC program, this was limited to disaster victims. This is because the objective was to support the livelihoods of people in the affected areas who were left unemployed as a result of the disaster. However, particularly in areas in which population aging and depopulation is progressing, there were cases in which it was not possible to gather enough people to keep up with the demand for people to engage in reconstruction projects. There are also cases in which it is not possible to satisfy the demand for professionals with people from within the disaster-affected area. For instance, the leader of the Marine Learning Center project introduced among the examples in Section III is a talented person who clearly

[11] One example of support from neighboring municipalities is a project for temporary housing support in Ofunato city and Otsuchi town in Iwate prefecture, which was largely planned and implemented by Kitakami city.

plays a necessary role in the recovery of the area. Although such people have the potential to become human resources that take core roles in the area if they settle there, they cannot be employed under the project. In order to reconstruct the disaster area and develop the future of the town, it is extremely important to address how to ensure that such talented people who come from outside the disaster area with the wish to contribute to reconstruction are engaged in the projects. Particularly in regions that are facing population aging and depopulation, it is preferable for professionals and other such people who cannot be supplied from within the disaster-affected area and people from the area who have moved to other prefectures to also be employed under the program.

Secondly, there is the task of possessing the flexibility to change timings when support should be continued or withdrawn, depending on the content of the project. The projects that are needed are likely to change depending on the stage of reconstruction, and it is also certain that at some point needs will decrease. In order to avoid placing undue pressure on the labor market of the area, it is necessary to ascertain an exit strategy determining at what stage to bring the project to an end. However, it is also necessary to take care to avoid misunderstandings that the projects are placing pressure on private sector business, which in turn cause the projects to be withdrawn, such as in cases where the town has already been experiencing population decrease and been struggling to provide the people to fill jobs, or cases where businesses that are yet to enroll in the essentially obligatory social insurance schemes complain that they cannot attract sufficient staff.

As the stages to which areas have recovered also differ from area to area, it is necessary to ensure that projects are not all withdrawn at the same time, but instead to develop the system such that the projects can be continued for long periods on a slim scale in cases in which it is truly necessary, such as support for people living in temporary housing or projects that are anticipated to be required over long periods.

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