

Optimal Life Recovery Assistance for Those Residing in Designated Temporary Housing after the 2011 Great East Japan Earthquake Disaster: A Final Project Summary

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ABSTRACT

In order to respond to huge temporary housing demands caused by the 2011 Great East Japan Earthquake (GEJE) disaster, the Japanese national government introduced a new policy to rent private apartments and houses as designated temporary housing (DTH) for the impacted survivors. As of May, 2013, those who were dwelling in DTH, PTH, and public housing units were 50%, 41% and 9%, respectively. This paper summarizes major findings from the four-year designated temporary housing (DTH) residents' life recovery study in Natori city, Miyagi prefecture. First, a series of qualitative studies revealed three distinct types of DTH households, consisting of young upward mobile adults, elderly and people with functional needs. Second, FY 2014 Natori population surveys showed that DTH residents on average showed higher recovery scores than PTH residents. However, those DTH households that required reasonable accommodation in their everyday life functioning (e.g., households consisting of single elderly, or physically vulnerable members) showed lower life recovery compared with the PTH counterpart. Third, disaster case management was necessary for those vulnerable households with functional needs and the ICT system developed by the project was found to be useful in facilitating case management processes in order for those survivors to design and implement their life recovery plans.

In order to respond to huge temporary housing demands caused by the 2011 Great East Japan Earthquake disaster, the Japanese national government introduced a new policy to rent private apartments and houses as designated temporary housing (DTH) for the impacted survivors. DTH has since become a mainstream policy: 57,825 units of apartments/houses were rented as DTH units while 47,839 prefabricated temporary housing (PTH) units were newly constructed. As of May, 2013, those dwelling in DTH, PTH, and public housing units were 50%, 41% and 9%, respectively. Japanese disaster research, however, has been mainly focusing on life recovery assistance for PTH inhabitants who live near each other. However, not much is known about the life recovery processes of DTH residents. This paper summarizes major findings from the four-year DTH residents' life recovery study in Natori city, Miyagi prefecture (see Figure 1).

Ethnography Research on DTH Residents' Life Recovery Processes

In order to identify life recovery process characteristics of DTH residents in comparison with other types of housing arrangements, 21 GEJE survivors were intensively interviewed by the ethnography research team from October, 2012 to March 2014. The 21 informants were all residing in Yuriage community, Natori city at the time of GEJE and consisted of DTH (16), PTH

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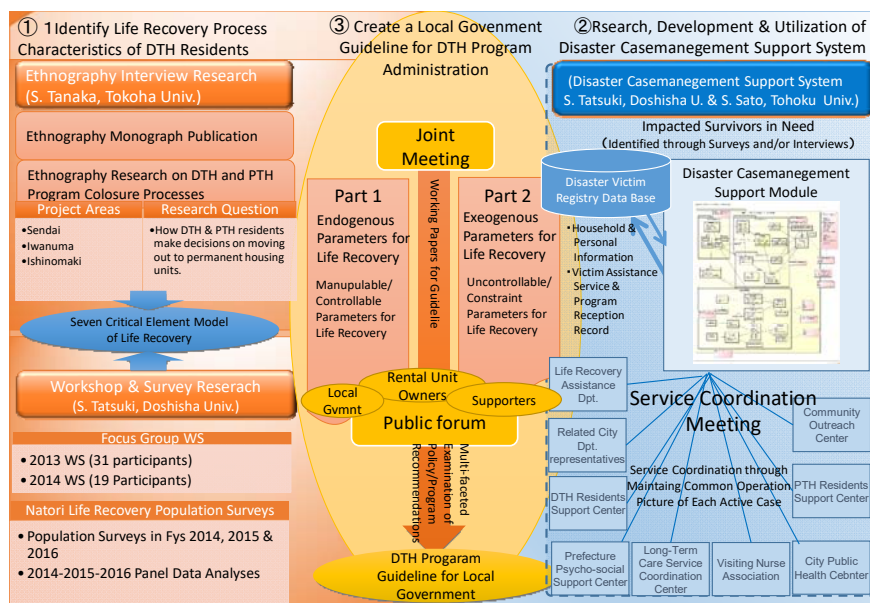


Figure 1. Natori DTH Study Project Work Flow.

(4) or one's own restored home (1) residents. Each interview took place on one occasion at each informant's residence with, in most of the cases, his/her spouse or other adult family members being present. They were asked to share their experiences after the event in an unstructured interview which usually took 2 to 2 and a half hours.

Three different household types (young adults, vulnerable elderly and those with functional needs) were identified through the interviews. (1) The households consisting of mainly young adults with stable income, livelihood and previous experiences of renting houses, began rental housing search soon after the disaster and found interim units by their own efforts within two to three months. They showed a high propensity to be independent from government support. (2) Those vulnerable elderly households who missed opportunities to not only apply for government supplied PTH units but also for suitable DTH units from the rental housing market, were forced to move into smaller, older and less desirable DTH units situated in inconvenient locations. Because relocations among DTH or PTH units were not allowed, they had no choice but to continue residing in low quality accommodations. (3) Those households with family members requiring reasonable accommodations due to disabilities and other related functional needs decided that they would cause trouble to other people in any emergency shelter, and that it would be too hard to live in mass-provided/produced non-barrier-free PTH units. Because of this, they opted for rental housing units immediately after the disaster (Tanaka and Shigekawa, 2014).

Life Recovery Assessment Workshop and Surveys

In order to identify factors that facilitate resilience for life recovery, participatory focus group workshop sessions were held in January of 2013 and March of 2014 involving 31 and 19 EJEQ survivor/participants, respectively. The participants' housing arrangements varied from DTH and PTH to restored or newly rebuilt homes. During workshop sessions, participants were asked to state elements that would help them to feel that "I am no longer a disaster victim." Participants from 2013 workshop produced 193 opinion cards and those from 2014 produced 118 cards. Based on a Grounded Theory type of conceptual clustering of statements/opinions from each workshop,

seven super-categories emerged as resilience enhancers. Those consisted of *housing, social ties, community involvement, physical/mental stress management, preparedness, livelihood, and relations to government*. These seven elements were commonly seen across different types of housing arrangements. The results turned out to be identical to the findings from the 1999 grassroots assessment workshops on life recovery from the 1995 Kobe Earthquake. The 1999 workshop results provided an empirical basis to build the Seven Critical Element Model (SCEM) of life recovery (Tatsuki, 2007). The similar results from the 2013 and 2014 workshops supported the validity of the SCEM and its empirical measures for further quantitative research on life recovery processes among the GEJE impacted citizens.

Based on the SCEM, three population surveys on life recovery were conducted with Natori citizens in DTH and PTH residences in fiscal years 2014, 2015 and 2016. Questionnaires were mailed to all those who were registered as DTH and PTH residents by Natori city at the time of each survey. 72.7 % (1,533 households) and 85.4% (1,187 households) returned the survey questionnaires in Fy2014 and Fy2015, respectively (Fy2016 survey results are still in process of analyses at this point). Figures 2 to 5 illustrate the major findings on the effects of DTH/PTH on life recovery as was found from Fy2014 survey. As shown in Figure 2, life recovery scores of DTH residents on average were significantly higher ($p < .01$) than those of PTH residents. This seems to support in general the validity of the newly introduced DTH policy. Figure 2 seems to imply that DTH was a better choice for “1) younger, self-reliant and upwardly mobile families.” In order to examine life recovery situations among the next two categories of “vulnerable elderly households” and “households with persons with functional needs”, their average life recovery scores were examined (Figures 3 to 5). Figure 3 showed that single elderly households recovered better at PTH than at DTH. Similarly, Figures 4 and 5 illustrate that those households with physically vulnerable persons (PVP) or persons with disability (PWD), respectively recovered better at PTH rather than DTH. Those socially or physically vulnerable categories of survivors seemed to have benefited from living arrangements with more formal/informal help available in PTH complexes.

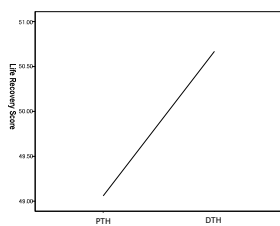


Figure 2: Life recovery score by temporary housing type

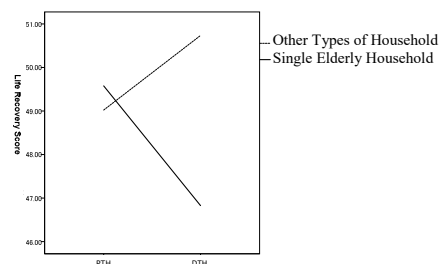


Figure 3: Life recovery score by temporary housing type by single elderly household or not

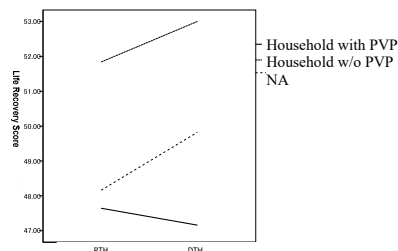


Figure 4: Life recovery score by temporary housing type by household with/without a physically vulnerable person

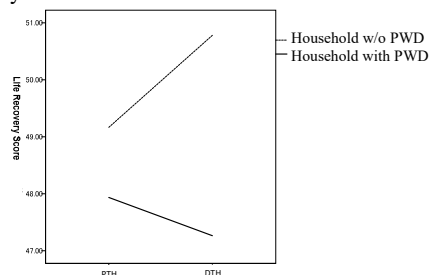


Figure 5: Life recovery score by temporary housing type by household with/without a person with disability

Development/Utilization of Disaster Case Management Support System

The 2015 Natori Life Recovery Population survey of DTH and PTH residents revealed about 301 households (or about 20 %) of those who responded were still undecided regarding where, when, which types of permanent housing, and/or with which family members they would like to relocate to. Proportionately more DTH residents (19.2 %) were undecided than those in PTH (6.1%). This is mainly because most of PTH residents were determined to build their own houses or to move into public restoration housing units back in the Yuriage community once the land elevation and readjustment projects were completed. The reasons for not being able to decide on permanent housing plans varied from financing a new home or finding a unit in a suitable location (i.e., close to work, school, clinic, public transportation, etc.), through disagreement among family members, to being too overwhelmed about making decisions. In other words, the reasons were all particularistic and usually multifaceted, and there was no single universal solution. Case-by-case help therefore was required in order to sort out the tangled threads of multiple issues/wants/needs, each of which might require corresponding formal and informal resources (i.e., health, social services, education, income/job security and others) in order to meet its needs. Disaster case management was found useful to manage these case-by-case helping processes.

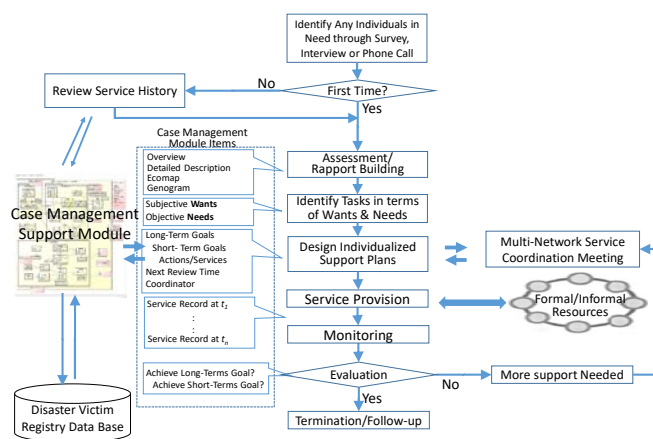


Figure 6: Disaster Case Management Cycle Standard Operation Procedure

facilitate the standardized case management cycles while maintaining each case's common operational picture that was to be shared among those who were involved and providing corresponding services from different departments or agencies.

Our research team assisted the Natori city administration to introduce a case management support system, which consisted of 1) the formation of a multi-organizational case management network of formal/informal departments/agencies, 2) a disaster case management cycle standard operation procedure (SOP), 3) the use of commonly used technologies such as ecomaps and genograms, 4) training and exercise procedures, and 5) the introduction of Plan-Do-Check-Action cycles for operational improvements. A prototype ICT module as shown in Figure 6 was developed and utilized in order to

Acknowledgments

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