The experiences of people with functional needs in times of disasters: Results from the 2013 Sendai grass-root assessment workshop

Presentation for UNU-IAS Fukushima Global Communication Programme Panel Debate @ WCDRR2015: “Disaster Risk Reduction and the Transition from Response to Recovery”
Sendai, March 16, 2015

Shigeo Tatsuki
Department of Sociology, Doshisha University
Background of the Problem

Miyagi PWD died at a rate almost twice higher than the general population
PWD Mortality Rate in Miyagi Prefecture: Two Times Higher Than General Population

PWD Institutionalization Rates among Iwate, Miyagi and Fukushima Prefectures

Multiple Regression of PWD Mortality

Heavier Immediate Damage and Loss among PWD were socially constructed.

Adjusted $R^2 = 0.968$

Research Question: What about life difficulties for Surviving PWDs

1. What difficulties did PWD experience due to the disabilities?

2. Were the difficulties caused due to their impairments or to socially constructed reasons?

3. If the difficulties were the social production, what can a society do in order to solve the problems?
Disability in Social Context

WHO(2002). The International Classification of Functioning, Disability and Health, ICF
Disability & Disaster in Social Context

WHO (2002). The International Classification of Functioning, Disability and Health, ICF
Sendai PWD Grass-Roots Assessment Workshop

October 14, 2013
Method: Grass-Roots Assessment Workshop

- Participants: 41 PWD from 16 different disability organizations (people with visual, auditory, speech, physical, mental, developmental/intellectual disabilities, with internal organ disorders, and with paraplegia and quadriplegia)

- Procedure: Asked life difficulties after 0hr, 10hr, 100hr, 1,000hr (Hayashi, 2003) after the event

- Instrument: ICF or International Classification of Functioning, Disability and Health (WHO, 2002)
  
  Body Functions (b), Body Structure (s), Activity and Participation (d), and Environmental Factors (e)
ICF Activity/Participation & Environment Domains

Activities & Participation (d)
- Learning & Applying Knowledge
- General Tasks & Demands
- Communication
- Mobility
- Self-Care
- Domestic Life
- Interpersonal Interactions & Relationships
- Major Life Areas
- Community, Social & Civil Life

Environmental Factors (e)
- Products & Technology
- Natural Environment & Human-Made Changes to Environment
- Support & Relationships
- Attitudes
- Services, System & Policies
Results: ICF–By–Time Phase Cross–Tabulation
## ICF Category–By–Time

<table>
<thead>
<tr>
<th>ICF Category</th>
<th>0hr - 10hr</th>
<th>10hr - 100hr</th>
<th>100hr - 1,000hr</th>
<th>1,000hr -</th>
<th>Row Total (%)</th>
</tr>
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<tbody>
<tr>
<td><strong>d1 Learning and Applying Knowledge</strong></td>
<td>0</td>
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<td>0</td>
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<td>1 (0.2%)</td>
</tr>
<tr>
<td><strong>d2 General Tasks and Demands</strong></td>
<td>12</td>
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</tr>
<tr>
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<tr>
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**Row Total (%)**

**Disaster Time Phase**

- **0hr - 10hr**: 27%
- **10hr - 100hr**: 40%
- **100hr - 1,000hr**: 23%
- **1,000hr -**: 10%

**67%**
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Disaster Time Phase

- 0hr - 10hr: 67%
- 10hr - 100hr: 90%
- 100hr - 1,000hr: 27%
- 1,000hr - 429 (10%)

- Row Total (%)
- Column Total

- ICF Category: d1, d2, d3, d4, d5, d6, d7, d8, d9, e1, e2, e3, e4, e5
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Row Total (%) |
| 67%          | 90%         |
Proportions of ICF categories by disaster time phase
Correspondence Analysis of ICF–By–Time Phase Cross-Tabulated Data

→

Assign each ICF and Time Phase Category a set of numerical weights in a small (i.e., two dimensional) space
## Correspondence Analysis of Cross-Tabulated Data

<table>
<thead>
<tr>
<th>ICF Category</th>
<th>Disaster Time Phase</th>
<th>0hr - 10hr</th>
<th>10hr - 100hr</th>
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\[
F = \begin{bmatrix}
0 & 1 & 0 & 0 \\
12 & 11 & 7 & 9 \\
6 & 25 & 17 & 9 \\
\end{bmatrix}
\]

(1) \[
\eta^2 = \frac{SS_b}{SS_t}
\]

(2) \[
F'F\mathbf{x} = k\eta^2D\mathbf{x}
\]

(3)
Move to a Shelter

Formal Helper

Psychological Stress about Future

Reasonable Accommodation

Lifeline Cleaning

Applying for Victim Assistance Programs

Medicine • Equipment • Car • Phone

Toilet • lay down • keep clean

Toilet • lay down • keep clean
<table>
<thead>
<tr>
<th>Time Phase</th>
<th>Functional Needs</th>
<th>Actions Needed</th>
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<tbody>
<tr>
<td>0 - 10 hr</td>
<td>Mobility</td>
<td>Community-based Evacuation Assistance Neighborhood Network</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Product &amp; Technology Prepare an Emergency Take-out Package</td>
</tr>
<tr>
<td>10 - 100 hr</td>
<td>Self-Care</td>
<td>Reasonable Accommodation at Local Evacuation Shelters</td>
</tr>
<tr>
<td>100 - 1,000 hr</td>
<td>Domestic Life</td>
<td>General Disaster Volunteers for House Cleaning and Other Household Chores</td>
</tr>
<tr>
<td></td>
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<td>Expert Volunteers for Government Support Applications</td>
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<td>1,000 hr -</td>
<td>General Tasks &amp; Demands</td>
<td>Self-Management, Mutual Help and Expert Volunteer Help for Stress Management</td>
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