The Fukushima Nuclear Accident: A Social Science Perspective

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NUCLEAR POWER IN JAPAN

Fifty-four nuclear reactors supply about a quarter of Japan’s electrical energy needs (1). Before the Fukushima disaster struck, new reactors and energy conservation were set to double that proportion by 2030 (2).

1 Nuclear landscape

Nuclear reactor status
- Accident with nuclear fuel damage (4)
- Accident without nuclear fuel damage (2)
- Safe shutdown (8)
- Not affected by earthquakes (40)
- Under construction (2)
- Construction planned (10)
Cesium-134 and cesium-137 accumulated on ground surface

Unit: becquerels per square meter
- 3-30 million
- 1-3 million
- 0.3-0.6 million
- 0.3 million or less
- 0.6-1 million
- no measurement

Converted to figures as of April 29. Based on results of science ministry/DOE aircraft monitoring.
Spike in elderly deaths due to evacuation (Nomura et al. 2013)

Effects of evacuation on nursing home residents in Minamisoma-city 1
### Lack of Medical Care

#### Increasing cases of Chronic Diseases

<table>
<thead>
<tr>
<th></th>
<th>柚木・大野台</th>
<th>保健センター</th>
<th>玉野地区</th>
</tr>
</thead>
<tbody>
<tr>
<td>身長・体重を測定した人数</td>
<td>291 人</td>
<td>266 人</td>
<td>183 人</td>
</tr>
<tr>
<td>肥満だった人の数</td>
<td>125 人</td>
<td>83 人</td>
<td>59 人</td>
</tr>
<tr>
<td>肥満だった人の割合</td>
<td>43.0 %</td>
<td>31.2 %</td>
<td>32.2 %</td>
</tr>
</tbody>
</table>

⑥血圧つづき

収縮期血圧が140mmHg以上または拡張期血圧90mmHg以上の方を高血圧としています。

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</tr>
<tr>
<td>高血圧だった人の数</td>
<td>77 人</td>
<td>44 人</td>
<td>29 人</td>
</tr>
<tr>
<td>高血圧だった人の割合</td>
<td>26.5 %</td>
<td>16.6 %</td>
<td>15.8 %</td>
</tr>
</tbody>
</table>
1/3 of all medical consultations in Fukushima City centered on radiation
## Public Opinion on N-Power

<table>
<thead>
<tr>
<th>Date / Source</th>
<th>Increase</th>
<th>Maintain status quo</th>
<th>Decrease</th>
<th>Abolish</th>
<th>No opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec. 2005 (PM Office)</td>
<td>55</td>
<td>20</td>
<td>14</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Oct. 2009 (PM)</td>
<td>59</td>
<td>19</td>
<td>14</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>April 2011 (Yomiuri)</td>
<td>10</td>
<td>46</td>
<td>29</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>June 2011 (Asahi)</td>
<td>4</td>
<td>41</td>
<td>36</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>August 2011 (Sokagakkai)</td>
<td>5</td>
<td>49</td>
<td>32</td>
<td>13</td>
<td>1</td>
</tr>
</tbody>
</table>
Mass Anti-Nuclear Protest
“Let’s Decide Together” Anti-Nuclear Referendum
Public Backlash (http://www.youtube.com/watch?v=rVuGwcdlhQ)

So, are you saying that they don’t? They have that right, don’t they?
Citizen Science: SafeCast
Fuhrmann (2011): impact on nuclear development
Conclusions

Death spike among evacuees and anxiety / confinement-related health problems

Massive loss of trust (citizen science) and anger towards authorities (lawsuits, referenda, protests)

Need for bottom up, citizen-based recovery and community-based disaster planning