

## Submission to the UN Human Rights Council by Greenpeace Japan

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### Annex C: Mental Health

Trauma research has clearly shown that exposure to disasters increases the likelihood for Post-Traumatic Stress Disorder (PTSD) and other mental illnesses, including anxiety, depression, and other negative outcomes. Further, a review of studies of the psychological impacts of disasters, encompassing human-made (mass shootings, acts of war, etc.), technological (radiological and chemical accidents, plane crashes, etc.) and natural disasters, found that PTSD rates for natural disasters were significantly lower among survivors than they were for human-made and technological disasters.<sup>1</sup>

Another study that focused specifically on the mental health impacts of nuclear disasters on survivors – Three Mile Island, Chernobyl, and Fukushima – not only found increased rates of mental illness among survivors, but that mothers with young children were one of the two highest risk groups – the other being first responders.<sup>2</sup>

This would be consistent with another study of mothers, with infants in the Fukushima-impacted region, which found that depression rates were highest in the areas closest to the Fukushima Daiichi site and lowest in areas least affected by the nuclear disaster.<sup>3</sup> In addition, the authors note that the percentage of Fukushima-impacted women with depressive symptoms six months after giving birth was remarkably high at 27.6%. Predictive models would indicate only 14% of mothers in this study should screen positive for depressive post-partum symptoms after that length of time following giving birth.

Thus, women are not only at greater risk due to the physical impacts of radiation, but are at greater risk of suffering mental health consequences as well. And while human-made, technological disasters increase the likelihood of mental illnesses in both genders, this greater mental health vulnerability for women may be due to a number of compounding factors that are directly related to the nuclear disaster and the emergency response policy failures<sup>4</sup>, though not related to physical effects of radiation itself, including: increased domestic tensions, violence and/or sexual assault; loss of support networks and lack of legal protections; loss of income and employment; inability to access compensation payments due to distribution to male heads of household; challenges in taking action to evacuate and/or take actions to protect oneself and children against radiation due to domestic disagreements and lack of financial resources; and, of course, concern about radiation exposure of themselves and their children.

Further, it should be noted that foreign-born women, who lacked strong community ties, were particularly isolated in the aftermath of the disaster. Though the vast majority of victims were Japanese, the lack of both formal and social support networks for foreign-born Fukushima survivors meant these women had even fewer resources for coping with psychological stresses wrought by the disaster and evacuation.<sup>5</sup>

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<sup>1</sup> Neria, Y. et al. (April 2008). “Post-traumatic stress disorder following disasters: a systematic review.” *Psychol Med.*; 38(4): 467–480.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4877688/>

<sup>2</sup> Bromet, E.J. (February 2014). “Emotional Consequences of Nuclear Power Plant Disasters.” *Health Phys*; 106(2): 206–210.  
[http://journals.lww.com/health-physics/Fulltext/2014/02000/Emotional\\_Consequences\\_of\\_Nuclear\\_Power\\_Plant.9.aspx](http://journals.lww.com/health-physics/Fulltext/2014/02000/Emotional_Consequences_of_Nuclear_Power_Plant.9.aspx)

<sup>3</sup> Goto, A., E. Bromet and K. Fujimori (2015). “Immediate effects of the Fukushima nuclear power plant disaster on depressive symptoms among mothers with infants: a prefectural wide cross-sectional study from the Fukushima Health Management Survey.” *BCM Psychiatry (for the Pregnancy and Birth Survey Group of the Fukushima Health Management Survey)*. 15:59. DOI 10.1186/s12888-015-0443-8  
*See also:* Tetsuya, T. (2014, May). “What March 11 Means to Me: Nuclear Power and the Sacrificial System.” *Asia-Pacific Journal: Japan Focus*. Vol. 12, 19:1. <http://apjif.org/2014/12/19/Takahashi-Tetsuya/4114/article.html>

<sup>4</sup> Unequal Impact: Women’s and Children’s Human Rights Violations and the Fukushima Daiichi Nuclear Accident. March 2017. *Greenpeace Japan*.  
<http://www.greenpeace.org/japan/global/japan/pdf/Unequal-impact-en.pdf>

<sup>5</sup> Ando, Y. (30 April 2013). “*Fukushima and Nuclear Crisis 2011 with Gender View*.” Fukushima Bar Association, Japan. Chapter 15. *Healthcare Management and Economics: Perspectives on Public and Private Administration: Perspectives on Public and Private Administration*. Merviö, Mika Markus.. IGI Global. <http://www.igi-global.com/book/healthcare-management-economics/72354>