Supplementary Material S1

for

External Cesium-137 doses to humans from soil influenced by the Fukushima and Chernobyl nuclear power plants accidents: a comparative study

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Supplementary Materials S1  Land-use change near the NPP observed by satellite

Figure S1 shows the land use change based on Normalized Difference Vegetation Index calculation\(^1\) near the CNPP before and after the accident. Farmlands (i.e., yellow/light-green tiny areas with well-defined boundaries) near the CNPP before the accident were replaced by natural vegetation (i.e. same areas without well-defined boundaries) which was taken over the abandoned fields after the accident. The phenomenon happened in the areas within the “Chernobyl Exclusion Zone”, 30 km from the CNPP, and even further. However, there was no affirmative land use change near the FNPP which could be attributed to the FNPP accident (figure not shown). It was partially due to the inability to resolve the small-scale farmlands by current image resolution.
**Figure S1.** The Normalized Difference Vegetation Index (NDVI) maps for Chernobyl region, Ukraine and area nearby computed from LandSat 5 Thematic Mapper (TM, Bands 3 and 4) (a) before (left panel) and (b) after (right panel) CNPP accident on April 22, 1986 and April 1, 1990, respectively. The NDVI maps were created with MATLAB (version R2014b) [https://www.mathworks.com/products/new_products/latest_features.html](https://www.mathworks.com/products/new_products/latest_features.html). For the color code, zero means no vegetation and close-to-one means high density of green leaves.

**Reference:**

1. NDVI (2000).

([http://earthobservatory.nasa.gov/Features/MeasuringVegetation/measuring_vegetation_2.php](http://earthobservatory.nasa.gov/Features/MeasuringVegetation/measuring_vegetation_2.php))