

The Reality after Fukushima in Japan Actual Damage to Local People

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Abstract

This study analyses the government's efforts and the actual situation of the victims of Fukushima Daiichi nuclear power plant accident five years after the accident. As of September 5, 2015, about 99 thousand Fukushima prefecture residents had been forced to evacuate from their homes. Currently, the government is seeking to lift evacuation orders aggressively. However, evacuees have mixed feelings. The amount of legally required compensation for damages continues to increase; it reached 7.65 trillion yen (US\$76.5 billion) in the latest review as of the end of March 2016. TEPCO is practically bankrupt and has been collecting funds from all Japanese citizens. As of the end of December 2015, 51 people were diagnosed with malignant or suspected malignant thyroid cancer in the second examination conducted by Fukushima Prefecture. Government measures, i.e., disaster recovery plans, compensation for damages, and scientific approaches, have been used as means to avoid taking responsibility through the use of power, the use of money to keep victims silent, and the use of science as an excuse; these measures are driving the victims into a corner instead of supporting them. Ultimately, two common causes of these problems are related to the nuclear energy policy of the past and the nuclear energy policy for the future.

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1 Introduction

Five years have passed since the Tokyo Electric Power Company (TEPCO)'s Fukushima Dai-ichi Nuclear Power Plant Accident (hereinafter referred to as the Fukushima accident) which occurred due to the magnitude 9.0 Great East Japan Earthquake of March 2011. Now, have the victims of Fukushima accident been able to get back to normal life without any problem? Unfortunately, they are still facing many problems. Recovery has been slow in Fukushima due to the existence of areas designated as evacuation zones, their dissatisfactions are suppressed by the compensation for damages, and they suffer from the fear of developing cancer through the participation in the thyroid examination. This study examined these three challenges as the current main issues faced by the victims to clarify the current status of the victims who are suffering not only from the effects of the Fukushima accident but also because of government measures. The complex current conditions are described in Chapter 2 and the essential issues obscured by the current situation are clarified in Chapter 3.

2 Aspirations and the reality five years after the Fukushima accident

2.1 Evacuation plan²

The residents of Fukushima prefecture, in which Fukushima Dai-ichi nuclear power plant is located, are exhausted from the prolonged evacuation and hope to be freed from the life as an evacuee. On the other hand, they have doubts about the hasty lifting of evacuation orders by the government due to their anxiety about radiation-related issues.

The Reconstruction Agency, which was established after the Great East Japan Earthquake, set the five years following the earthquake of 2011 as the intensive reconstruction period, and the term from April 2016 to March 2021 as the reconstruction and creation period³. They emphasized that the number of earthquake evacuees

² Reconstruction Agency, Current Status of Reconstruction and Challenges, March 2016. http://www.reconstruction.go.jp/english/topics/Progress_to_date/image/20160307_Current_Status_of_Reconstruction_and_Challenges_rev1.pdf

³ Reconstruction Agency, "The Process and Prospects for Reconstruction", March 2016, http://www.reconstruction.go.jp/english/topics/Progress_to_date/image/20160307_process_and_prspects.pdf

from Iwate Prefecture, Miyagi Prefecture and Fukushima prefecture has dropped to 174 thousand people as of February 2015 from its peak at about 470 thousand.

But if we look at the figures closely, it becomes clear that Fukushima prefecture alone has been left behind. As of September 5, 2015, about 99 thousand Fukushima prefecture residents—the number is greater than half of the total number of evacuees—had been forced to evacuate from their homes. Specifically, about 55 thousand people had evacuated to other areas within Fukushima prefecture; among these evacuees, approx. 51 thousand people had been compelled to live in temporary housing. The remaining approx. 43 thousand people had evacuated to other prefectures across Japan. According to the questionnaire survey involving 1,000 earthquake victims conducted in March 2016 by Japan Broadcasting Corporation (NHK), 310 people had to evacuate more than 5 times; among these people, 250 people were Fukushima prefecture residents. Besides, the percentage of people who responded that they do not feel that disaster recovery has been achieved was 17.6 % in Iwate Prefecture, 18.2% in Miyagi Prefecture, and 49.9 % in Fukushima Prefecture⁴.

About 70 thousand people have evacuated from the designated evacuation zones due to the Fukushima accident: specifically, about 24 thousand people evacuated from the difficult to return zone, about 23 thousand people from the restricted residence zone, and 24 thousand people from the zone in preparation for the lifting of the evacuation order. The prolonged evacuation period has exhausted the Fukushima prefecture evacuees. As of the end of September 2015, the total number of disaster-related deaths—i.e. deaths that were not caused directly by the earthquake and tsunami but were due to indirect causes such as deterioration of physical conditions as a result of evacuation—was 3,407 people. These people had been living in 9 prefectures and Tokyo. Of these, Fukushima prefecture had the highest number at 1,979 deaths⁵. According to the latest information released by Fukushima prefecture, the number of deaths has risen to 2,038 (as of 1 April 2016)⁶.

Since the sum of deaths including deaths directly caused by the earthquake and tsunami is 3,866, the number of deaths caused by indirect reasons has exceeded that of the deaths caused by direct reasons. As the government hasn't provided a

⁴ NHK (Japan Broadcasting Corporation), Great East Japan Earthquake, A Survey of 1000 Survivors, (in Japanese), http://www.nhk.or.jp/d-navi/link/shinsai5/shinsai5.pdf, accessed 26 April 2016.

⁵ Reconstruction Agency, "The number of disaster-related deaths due to the Great East Japan Earthquake" 25 December 2015. (in Japanese) see http://www.reconstruction. go.jp/topics/main-cat2/sub-cat2-6/20151225_kanrenshi.pdf Accessed 12 April 2016.

⁶ Deaths and injuries due to the Great East Japan Earthquake (as of 1 April 2016), https://www.pref.fukushima.lg.jp/uploaded/life/198319_445221_misc.xlsx, accessed 26 April 2016.

definition of the term "disaster-related death," bereaved family members must prove with great difficulty that the death of the deceased family member is related to the disaster. Therefore, the potential number of disaster-related deaths may be higher.

According to the statistics collected by the Cabinet Office, the number of suicide related to the Great East Japan Earthquake has decreased everywhere else but Fukushima prefecture. The number of suicides committed in Iwate prefecture and Miyagi prefecture in 2011 following the earthquake was 17 and 22, respectively; this number in 2015 dropped to 3 and 1, respectively. On the contrary, the number of suicides increased from 10 in 2011 to 19 in 2015 in Fukushima prefecture⁷.

Currently, the government is seeking to lift evacuation orders aggressively. Among the zones in preparation for the lifting of the evacuation order, orders covering a part of Tamura city and a part of Kawauchi city were lifted in 2014, and an order covering a part of Naraha town was lifted in September 2015. In June 2015, the government announced that they will enable the lifting of evacuation orders for all restricted residence zones and zones in preparation for the lifting of the evacuation order by March 2017⁸. If this plan materializes, 47 thousand people will be able to return to their homes.

However, evacuees have mixed feelings. According to the results of the NHK survey, 45.8% of Fukushima evacuees responded that it is too early. For example, in February 2016, the government held a briefing in Minami-souma city and stated that they hope to lift the evacuation order in April. In response to this, numerous residents commented that it is too soon to lift the order since progress has been slow in implementing decontamination activities. In March 2016, Fukushima prefecture released the results of its questionnaire survey. Among the people who had evacuated to other prefectures and had no home to return to in Fukushima prefecture after April 2017 which is when the program for offering rental houses free of charge will be terminated, about 70% of them did not wish to return to Fukushima while about 10% wanted to return to the prefecture and about 20% responded that

⁷ Cabinet Office, "Number of suicides related to the Great East Japan Earthquake" 13 March 2016. (in Japanese) see http://www8.cao.go.jp/jisatsutaisaku/toukei/pdf/h27joukyou/ jishin.pdf Accessed 12 April 2016.

⁸ Nuclear Countermeasures Headquarters, "Accelerating post-nuclear disaster Fukushima recovery efforts" (Revised version), 12 June 2015. (in Japanese) see http://www.meti.go.jp/earthquake/nuclear/kinkyu/pdf/2015/0612_02.pdf Accessed 12 April 2016.

⁹ Tokyo Shimbun, "Residents oppose plan to lift evacuation order in April at an explanatory meeting in Minami-souma city", 21 February 2016. (in Japanese) see http://www.tokyo-np.co.jp/article/national/list/201602/CK2016022102000126.html Accessed 12 April 2016.

they are still debating on whether or not to return¹⁰. These response results may be due to the following reasons: the fact that their lives at the evacuation destination have taken root, concerns over changing the children's living conditions, and fear of radiation-related issues.

Decontamination work in the designated areas to be decontaminated under the direct control of the government has finished in 6 municipalities among the 11 municipalities within Fukushima prefecture and the plan is to finish decontamination in the remaining municipalities by the end of FY2016¹¹. But anxiety in Fukushima prefecture is strong. According to the NHK survey, 38.7% of evacuees responded that their fear of exposure had not changed even five years after the accident. In December 2015, the Ministry of the Environment announced that they will not decontaminate areas more than 20 km away from daily activities area in Fukushima prefecture¹². However, as a result of local opposition, the ministry changed the policy to carry out decontamination in satoyama areas—border zones of agricultural land and forested land traditionally regarded as one area—where people may enter easily¹³.

2.2 Compensation for damages

TEPCO continues to pay compensation for nuclear damages to the people who suffered damages such as individuals, sole proprietors, and corporations.

Legally required compensation costs have continued to increase and the total reached 7.65 trillion yen (US\$ 76.5 billion) in the latest review as of the end of March 2016. Out of that total, the amount of the agreed-upon compensation was 5.92 trillion yen (US\$ 59.2 billion). Compensation costs include medical examination

¹⁰ Fukushima Prefecture, "Interim report on the residence intentions survey", 25 March 2015. (in Japanese) see https://www.pref.fukushima.lg.jp/uploaded/attachment/158116. pdf Accessed 12 April 2016.

¹¹ Ministry of the Environment "Progress map of decontamination activities implemented under the direct control of the government" 4 March 2016. (in Japanese) see http://josen.env.go.jp/material/pdf/josen_gareki_progress_201603.pdf Accessed 12 April 2016.

¹² Environmental recovery review meeting, "Direction of radioactive materials management measures for forests (draft)" 21 December 2015. (in Japanese) see http://www.env.go.jp/jishin/rmp/conf/16/mat05.pdf Accessed 12 April 2016.

¹³ Project team of relevant ministries and agencies for recovering forests and the forest industry in Fukushima, "Comprehensive approach for recovering forests and the forest industry in Fukushima", 9 March 2016. (in Japanese) see http://www.reconstruction. go.jp/topics/main-catl/sub-catl-4/forest/160309_3_siryou1.pdf Accessed 12 April 2016.

costs, compensation for psychological damages, voluntary evacuation expenses, and business loss expenses¹⁴. In terms of the number of claims, approx. 899 thousand cases by individuals, approx. 1.3 million cases by individuals (losses due to voluntary evacuation), and approx. 4.02 million cases by corporations and sole proprietors had been filed as of April 2016¹⁵.

TEPCO has been showing consideration for the circumstances and feelings of the victims¹⁶. However, according to the Nuclear Damage Compensation Dispute Resolution Center, which was established as means to provide Alternative Dispute Resolution (ADR) by mediating disputes between victims and TEPCO to enable them to reach agreements without having to go to court, 4,239 claims were made in 2015 and the mediation process is still ongoing indeed for 2,746 of those claims¹⁷.

Reparation does not cover the only TEPCO. The company has received the financial assistance from the nuclear power operators and government. That is, TEPCO has been bankrupt substantially and has attracted funds not only the consumer of electric companies without TEPCO but also the entire Japanese people.

According to the Nuclear Damage Compensation and Decommissioning Facilitation Cooperation, which was established newly to manage compensation funds, the cooperation received 508.3 billion yen (US\$ 5.1 billion) from nuclear power operators including TEPCO, an additional 110.0 billion yen (US\$ 1.1 billion) from TEPCO alone, and 9 trillion yen (US\$ 90 billion) of government bonds from the government as of FY2014¹⁸.

According to the estimation released in March 2015 by the Board of Audit of Japan, the government will need 30 years at the maximum to collect the debt owed

¹⁴ TEPCO, "New Comprehensive Special Business Plan" 31 March 2016. (in Japanese) see http://www.meti.go.jp/press/2015/03/20160331005/20160331005-1.pdf Accessed 12 April 2016.

¹⁵ TEPCO, Records of Applications and Payouts for Indemnification of Nuclear Damage (as of 22 April 2016). http://www.tepco.co.jp.cache.yimg.jp/en/comp/images/jisseki-e. pdf, accessed 26 April 2016.

¹⁶ TEPCO, Five Promises to the Afflicted, https://www4.tepco.co.jp/en/images/5promises. pdf, accessed 26 April 2016.

¹⁷ Nuclear Damage Compensation Dispute Resolution Center, Activities Report, March 2016. http://www.mext.go.jp/component/a_menu/science/detail/__icsFiles/afield-file/2016/04/20/1347876_009.pdf

¹⁸ Nuclear Damage Compensation and Decommissioning Facilitation Corporation, FY2014, Business Report (in Japanese), http://www.ndf.go.jp/soshiki/zai_h26jigyo.pdf, accessed 26 April 2016.

by TEPCO when it is assumed that the government provides financial assistance at the maximum government bond amount of 9 trillion yen (US\$ 90 billion)¹⁹.

2.3 Thyroid cancer diagnosis

In contrast to Fukushima prefecture's responses to evacuation plans and compensation, the prefecture has continued to deny the possibility of children's thyroid cancer together with the government. This may be because of the involvement of the government in the diagnosis process.

Fukushima prefecture is continuing its health survey which includes surveys of external and internal doses and thyroid examinations²⁰. In regard to the thyroid examination, the preceding survey—ultrasonic wave examination for residents who were under 18 years old and lived in Fukushima prefecture at the time of the accident—was conducted from FY2011 to FY2013. Of the about 370 thousand subjects, 300 thousand people were examined (participation rate: about 82%)²¹.

As of the end of June 2015, 113 people were diagnosed with malignant or suspected malignant thyroid cancer²². Of these, 99 people underwent surgery. Although this result is higher than the Japan's thyroid cancer statistics, the Fukushima Prefectural Citizens Health Survey Committee has not recognized these thyroid cancer cases as the result of the Fukushima accident; the Committee's reasoning is that these people were exposed to less radiation when compared with the case of Chernobyl accident and that some of the subjects may have been over-diagnosed.

A full-scale survey has been started involving the subjects of the preceding study and children who were born after the accident. If nodules or cysts that are

¹⁹ Board of Audit of Japan, "Report on the results of the accounting audit regarding the implementation status of government's assistance provided to TEPCO for compensation for nuclear damage" March 2015. (in Japanese) see http://www.jbaudit.go.jp/pr/kensa/result/27/pdf/270323_zenbun_01.pdf Accessed 12 April 2016.

²⁰ According to an estimation of external exposure dose rate based on a questionnaire survey, 93.8% of the respondents were exposed to doses between 0 to 2mSv as of December 2015. However, only 560 thousand people responded out of the 2.05 million subjects (27.4%). As for internal exposure measurements using a whole body counter, 281,228 people were exposed to less than 1mSv while 26 people were exposed to doses between 1mSv to 3mSv. Source: "Overview of the residents health survey" https://www.pref.fukushima.lg.jp/site/portal/43-7.html (in Japanese) Accessed 12 April 2016.

²¹ ibid

²² Fukushima Prefectural Citizens Health Survey Committee, "Interim report on the prefectural citizens health survey", March 2016. (in Japanese) see http://www.pref. fukushima.lg.jp/uploaded/attachment/158522.pdf Accessed 12 April 2016.

larger than a predetermined size are found in the first examination, those people undergo a second examination. As of the end of December 2015, 51 people were diagnosed with malignant or suspected malignant thyroid cancer in the second examination. Unfortunately, only 29 of them submitted a basic survey questionnaire that provides data on their exposure dose at the time of the accident. Among these values, the highest dose was $2.1~\mathrm{mSv^{23}}$.

In May 2015, a research group of Okayama University published a paper of epidemiological studies related to frequent occurrence of childhood thyroid cancer²⁴. According to the group, based on the results of the screening tests of Fukushima Prefecture, at the maximum, the number of thyroid cancer incidences in a certain area of Fukushima prefecture was 50 times higher than Japan's average annual number of thyroid cancer incidences. Accordingly, the group concluded that excessive occurrence of thyroid cancer has already been detected. However, this paper has received criticism and the academic debate on this issue has been continuing²⁵.

Diagnosis results are reviewed by the Fukushima Residents Health Survey Committee for the purpose of obtaining professional advice from experts belonging to research institutes and universities across Japan.

In October 2012, it was revealed that this committee had held secret preparatory meetings prior to the open review meeting to pre-arrange the discussions of the committee members; it was also discovered that they had created a scenario to lead the discussion at the time of the meeting²⁶. Furthermore, it was revealed that the former Chair of the committee had sent out a document to thyroid specialists across Japan in January 2012 to urge them not to respond to requests from the parents of

²³ Prefectural Citizens Health Survey Committee, "Thyroid examination (full-scale examination) implementation status" 15 February 2016. (in Japanese) see http://www.pref.fukushima.lg.jp/uploaded/attachment/151272.pdf Accessed 12 April 2016

²⁴ Tsuda, Toshihide et al., "Thyroid Cancer Detection by Ultrasound Among Residents Ages 18 Years and Younger in Fukushima, Japan: 2011 to 2014", Epidemiology: May 2016 – Volume 27 – Issue 3 – p 316–322., see http://journals.lww.com/epidem/Citation/2016/05000/Thyroid_Cancer_Detection_by_Ultrasound_Among.3.aspx Accessed 12 April 2016.

²⁵ Takahashi, Hideto et al., "Re: Thyroid Cancer Among Young People in Fukushima", Epidemiology • Volume 27, Number 3, May 2016, see http://journals.lww.com/epidem/Fulltext/2016/05000/Re___Thyroid_Cancer_Among_Young_People_in.36.aspx Accessed 12 April 2016.

²⁶ Management Investigation Committee, Correction of survey results concerning the management of the meeting of Fukushima Residents Health Survey Committee. November 15, 2012, (in Japanese) http://www.pref.fukushima.lg.jp/uploaded/attachment/45898.pdf

the examination participants for a second opinion – an approach in which patients/guardians choose the treatment by obtaining the opinion of several experts²⁷.

3 Challenges indicated by the reality

3.1 Problems of accident response measures

- 1. Evacuation issues: The government is giving higher priority to the external foreign policy over the lives of the evacuees and is trying to take advantage of the Fukushima accident. For example, the government announced in 2015 that it would communicate to the whole world at the Tokyo Olympic Games in 2020 that Japan has recovered from the 2011 disaster by regarding the event as a symbol of Japan's recovery²⁸. Plans for lifting evacuation orders and decommissioning activities are scheduled around the 2020 Tokyo Olympic Games in the government's disaster recovery plan²⁹.
- 2. Compensation issues: The future of compensation payments by TEPCO is uncertain. From now on, TEPCO will have to become competitive and operate its business more efficiently due to the liberalization of electricity retail sales in April 2016. Although the government has not announced the total cost of Fukushima accident yet, it will reach at least about 13.3 trillion yen including decommissioning and decontamination cost according to a calculation using data released by TEPCO³⁰.

²⁷ Michiyuki Matsuzaki, Opinion, What is happening to the children in Fukushima?, May 2015 (in Japanese). http://lam.sakura.ne.jp/Nuclear/kou131Matsuzaki-opinion.pdf

²⁸ Press Conference by Prime Minister Shinzo Abe on the Upcoming Fourth Anniversary of the Great East Japan Earthquake, March 10, 2015. accessed 26 April 2016. http://japan.kantei.go.jp/97_abe/statement/201503/1210209_9916.html

²⁹ See Ref.2

^{30 (1)} Decommissioning and contaminated water treatment costs of 2 trillion yen: Although TEPCO has already set aside a reserve of 1 trillion yen (US\$ 10 billion), the government has asked the utility to secure another 1 trillion yen (US\$ 10 billion) within 10 years. (2) Compensation costs of about 7.1 trillion yen (US\$ 71 billion): The total of legally required compensation costs according to the latest data is about 7.7 trillion yen (US\$ 77 billion, see Table 3). (3) Decontamination costs of 3.6 trillion yen (US\$ 36 billion): The Ministry of the Environment has estimated the decontamination cost at about 2.5 trillion yen (US\$ 25 billion) and the interim storage facilities cost at about 1.1 trillion yen (US\$ 11 billion). See Ref. 13.

3. Thyroid cancer diagnosis: Due to lack of clear information about the relationship between radiation exposure and cancer, the anxiety of people about the effects of radiation has increased more by the responses of the government and Fukushima prefecture. Although the health investigation committee of Fukushima prefecture is operating with the Fukushima prefectural health fund, since this fund received grants of 78.2 billion yen from the Ministry of the Environment³¹ and 25 billion yen from TEPCO³², the neutrality of this committee is unclear.

Traditionally, the Japanese government has tended to avoid dealing with radiation-related problems. For example, on October 20, 2015, Fukushima Bureau of Ministry of Health, Labour and Welfare (MHLW) recognized the leukemia developed by a worker who worked on decommissioning tasks after the Fukushima accident as an occupational disease³³. However, MHLW stated that "this recognition does not prove scientifically the causal relationship of radiation exposure and its health effects." The government's responses imply that it is trying to avoid an increase in workers' compensation due to recognition of occupational diseases.

After the Fukushima accident, the government created and released a quick reference table of radiation exposure in order to eliminate the people's radiation-related concerns. However, it was discovered that they had secretly corrected the figures without providing sufficient explanation. In the table, the level of natural background radiation in Japan was changed from 1.5 mSv/year of the April 2011 version to 2.1 mSv/year in the May 2013 version. Furthermore, the comment "No observable increase in cancer incidence" for exposure levels under 100mSv was deleted³⁴.

3.2 Common factors

The results obtained are shown in Table 1. Government measures, i.e., disaster recovery plans, compensation for damages, and scientific approaches, have been used as means to avoid taking responsibility through the use of power, the use of

³¹ Ministry of the Environment, Support of Fukushima prefecture health research business, accessed 26 April 2016. http://www.env.go.jp/chemi/rhm/support.html

³² See Ref. 13.

³³ Ministry of Health, Labour and Welfare, "Result of review at the 'review meeting on occupational/non-occupational ionizing radiation disease' and approval as occupational disease/injury" 20 October 2015. (in Japanese) see http://www.mhlw.go.jp/file/05-Shingikai-11201000-Roudoukijunkyoku-Soumuka/kouhyousiryou.pdf

³⁴ National Institute of Radiological Science, Dose scale, accessed 26 April 2016, http://www.nirs.go.jp/data/pdf/hayamizu/e/20130502.pdf

money to keep victims silent, and the use of science as an excuse; these measures are driving the victims into a corner instead of supporting them. Furthermore, it seems that these efforts are being made to obscure the responsibility rather than to resolve the problems, and in hopes that the victims will give up on seeking solutions.

Ultimately, two common causes of these problems are related to the below described past and future nuclear energy policies.

Common factor 1: Promotion of the aggressive nuclear energy policy of the past The cause of the current confusion concerning Fukushima accident responses is the claim aggressively made by the government and power companies in the past that a nuclear accident will not occur. As a result, the responses by the government and TEPCO were slow. The victim's and general citizens' distrust in the government and TEPCO still remains.

Common factor 2: Promotion of an aggressive nuclear energy policy for the future The government is trying to forcefully settle all problems related to the Fukushima accident at an early stage because it is trying to maintain the already set out nuclear energy policy for the future. From that standpoint, evacuation, compensation and exposure problems are all inconvenient facts and the government is afraid that these facts will have a negative effect on its efforts to maintain the nuclear energy policy. On the other hand, victims and the general public continue to have anxiety about the future.

Tal	b. 1	Measures and	purposes	of the government and	l TEPCO

Issue	Responsible party	Victim	Solution	Reality	The real purpose
Evacuation plan	Government	Residents	Disaster recovery plan, Lifting of evacuation orders	Use of power	Diplomatic message
Compensation	TEPCO	Residents (Japanese citizens)	Compensation system	Keep victims silent by the money	Revival of the company
Thyroid cancer diagnosis	Government, Fukushima prefecture	Residents (Children)	Scientific investigation	Use of science as an excuse for reaching definitive conclusions	Elimination of social anxiety

4 Conclusions

At present, five years after the Fukushima accident, the government's responses so far to the evacuation problems, compensation issues and the risk of thyroid cancer have been insufficient. It is obvious that the government's intention behind these insufficient measures is to maintain the nuclear energy policy.

Therefore, the victims have been hurt not only by the impact of the Fukushima accident but also by the government's responses. People affected by the nuclear disaster caused by the nuclear promotion policy of the past are now suffering from the current promotion of the nuclear energy policy for the future.

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