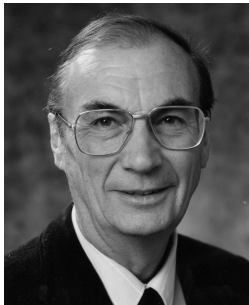


Responses to disaster: reflections on a visit to Japan



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Abstract: During the course of a short lecture/consultation visit to Japan, victims of atomic bombs and survivors of the great Tohoku tsunami raised ethical, psychological and historical issues.

Keywords: Japan, disaster response, displaced persons

Japanese citizens are not unused to disasters. They emerged from a deeply traumatic war which culminated in the mass bombing of most major cities and the utter destruction of Hiroshima and Nagasaki by atom bombs in 1945. The Japanese islands lie on a fault line making them vulnerable to earthquakes, 26 over 7.0 on the Richter scale since 2000 and major quakes in 1995, 2004 and 2011; several of these have given rise to tsunamis and there are many volcanoes, ten of which have erupted since 2000. Over the same period there have been fourteen deadly typhoons (hurricane force winds). As a result Japanese are well equipped to respond to most disasters both physically and mentally. Traditions of community support, tough-mindedness (akin to the 'stiff upper lip' which got British people through Hitler's 'blitzkrieg') and experience in responding to disasters and threats thereof, may explain high levels of resilience and self-control at such times.

But even this resilience has its limits and, as in most communities, there are some individuals who do not fit the cultural norms and some disasters that can overwhelm the most resilient. Examples of the latter include the atom bombs and the Tohoku earthquake and tsunami which took place in 2011, killing 20,000, making 326,000 homeless and causing melt-down in three nuclear power reactors, one of which (in Fukushima) is still, 2½ years later, discharging water contaminated with high levels of radiation into the sea.

During 1-21 October 2013 I visited Japan, accompanied by my wife, at the request of Professor Akemi Kariya, Faculty of Health and Welfare of the Prefectural University of Hiroshima, in order to take part in teaching engagements in Hiroshima and Tokyo and to meet and consult with professionals and the people whom they serve in responding to the Tohoku earthquake and tsunami. Although my visit was short, thanks to the efficient cooperation of Professor Kariya and the inimitable support of two of the English-speaking staff, Masako Terada and Douglas Mori, I had the opportunity to meet several distinguished professionals involved in the service and to interview members of the affected community in Iwate, the most affected prefecture. I remain grateful to them and to all of the other Japanese academics and practitioners who helped me with this assessment.

Hiroshima

The visit started in Hiroshima. The name will always be associated with the atom bomb although, today, it is a large thriving city most of whose inhabitants have been born since 1945. This was my second visit and I recall vividly how, 12 years ago, the Peace Park, near the epicentre of the bomb, brought back memories of the photos and film shown across the world when the victors occupied the city and saw what we had done. The park still contains the skeletal walls and dome of The Hiroshima Prefectural

Commercial Exhibition Hall as they were in the aftermath and the Peace Museum tells the whole story and makes an eloquent plea for outlawing nuclear warfare.

On the occasion of our second visit to Hiroshima I had the privilege of meeting *hibakusha*, survivors of the atomic bomb. Two of them had attended my latest lecture on 'Bereavement Care' and wanted to talk. Miyoko, now 84, was the perfect image of a dignified Japanese lady; tall, polite, reserved and immaculate in a fine kimono, and Kazuko, 81, more extravert and warmly supportive of her friend. They had been aged 16 and 13 at the time of the bomb; Miyoko was attending a college 3 kilometers and Kazuko, although her school was only 700 meters from the epicentre of the bomb, was working that day at a factory further out, to support the war effort.

"... I was not prepared for the total lack of emotional expression with which these elderly ladies described the most intimate and outrageous experiences in vivid detail ..."

The college was badly damaged with glass broken and ceilings down. Many students were injured but the walls had given some protection and Miyoko remained uninjured. Both had been affected by the blast and Kazuko had been caught in the 'black rain' which followed the explosion. Her hair dropped out and she suffered other radiation effects including nausea, vomiting, and chronic diarrhoea for months afterwards.

Even though I had read Robert Lifton's book, *Death in life* (1967), based on his interviews with *hibakusha* carried out 17 years after the war, I was not prepared for the total lack of emotional expression with which these elderly ladies described the most intimate and outrageous experiences in vivid detail, thereby adding to our own feeling of horror. Lifton speaks of this as 'psychic closing off', a defence against the overwhelming magnitude of the disaster. It was aggravated by the social isolation in which the *hibakusha* found themselves. The isolation, I learned, was partly the result of a rumour that the Americans had dropped an infectious and deadly disease along with the bomb. Few understood that the deaths that continued for many months after the bomb fell were a result of the lasting effects of radiation poisoning. By the time the death rate declined the *hibakusha* had become tainted with death and perhaps also a symbol of the shame of defeat. People avoided them and the *hibakusha* themselves felt ashamed of surviving. This may explain why, although some were now teaching others

about the appalling consequences of atomic warfare in the Peace Museum, others had kept their feelings buried for 60 years.

Our interpreter was the first to cry when Miyoko described the death of her father but the two ladies showed no emotion. He had been severely burned and had managed to walk to his daughter's college arriving three days later. Miyoko nursed him, using chop sticks to pick maggots from his wounds. When it became clear that he was dying she set out to fetch her younger brother from the other side of the city using small boats to cross the seven rivers whose bridges were down. They picked their way through the ruins and witnessed the full extent of the destruction. Miyoko's memories of her father's death and cremation are hazy but she recalls being sent to fetch more wood for the fire.

Both ladies remarked upon the observation in my lecture that, following traumatic stresses, it may help to share thoughts and feelings about the event. Both of them, along with most *hibakusha*, had avoided any discussion of their experiences and concealed their *hibakusha* identity whenever possible.

Only now did they feel ready to talk. They had both seen numerous dead bodies, burned black, and Kazuko witnessed a man with his intestines hanging out. I said 'What did you feel?' and she replied, 'Nothing, I remember being surprised that a man's abdomen could hold so much intestine.'

Over sixty years later Miyoko was interviewed by a journalist who asked her to tell him about the bomb. For the first time she felt secure enough to tell her story. She subsequently felt relieved and was now thinking of writing it all down. She had not yet talked to her family for fear of upsetting them.

"By recording her story and encouraging others to do the same Kazuko was not only helping them all, she was bearing witness ..."

Kazuko supported Miyoko strongly in her plan. She had already written about her own experiences and had helped to recruit 22 surviving members of the 300 pupils in her school year to write about theirs. 223 schoolmates were killed by the bomb as were the children and teachers at a nearby school who had all been incinerated by the blast. She gave me an English language copy of their book which shows clearly that Miyoko and Kazuko were not unusual in their inhibition of emotion. In my experience of working in hospices there have been several occasions when I have met

former soldiers who, having experienced extreme trauma and losses during WW2, chose to talk about it for the first time on their death beds. They all regretted the fact that they had not done this many years earlier.

Now that they have recorded the terrible event in the most moving language Kazuko and her school friends have achieved something else which they see as important. In their book, *Prayers for peace: recollections of schoolgirls in Hiroshima* (Ooga & Gleason, 2011) Kazuko writes:

‘Those of us who have been fortunate enough to live until today have finally been able to fulfil our mission. We can stand before the graves of those who died, and in declaring our *Prayers for Peace*, to them, we ask their forgiveness for having made them wait so long.’

Although there is a tradition of respect for the dead in Japan neither of these ladies saw themselves as ‘religious’, in fact they repudiated faith in any religious dogma. It seems that their sense of obligation to the dead reflects their wish to bring something worthwhile out of the sacrifice. By recording her story and encouraging others to do the same Kazuko was not only helping them all, she was bearing witness, reminding readers of what had happened and, hopefully, reducing the chances of it happening again.

The nuclear threat today

Of course, ‘the bomb’ remains a threat to us all and we cannot ignore the possibility that states in possession of nuclear weapons will forget the lessons of history and use them again. Nor can we ignore the dangers of accidental release of radiation now that nuclear energy is seen to be an alternative to most of the fuels that, through their effects on the biosphere, are themselves threatening the survival of our children and grandchildren. This danger has been brought home again by the impact of the recent tsunami on the nuclear reactors in Fukushima.

Japan needs to import c.84% of its energy requirements. For 21 years after the atomic bomb fell Japanese people held out against the use of nuclear power but finally their fear diminished to the point where they accepted the balance of risks and benefits. There are currently 50 main nuclear reactors in Japan, all built near the sea which provides the large amounts of water needed to cool the fuel rods. Prior to the tsunami they met 30% of Japan’s energy needs and the government had planned to double this to 60% by 2030 (World Nuclear Association, 2013).

The Tohoku earthquake and tsunami

Although the number of deaths resulting from the immediate damage caused by the Tohoku earthquake and tsunami is, to date, much larger than the number of deaths attributed to the melt-down of the nuclear reactors, these latter have given rise to much public anxiety and, as of

June 2011, ‘more than 80 percent of Japanese said they were anti-nuclear and distrust government information on radiation’ (Blair, 2011). All reactors were shut down by May 2012, most of them for inspection or maintenance (Batty, 2012). A new ‘Nuclear Regulation Authority’ was set up but, despite widespread public protests, reactors are gradually being re-licensed and new reactors built. It is estimated that by 2017 thirty five reactors will be in use (World Nuclear Association, 2013).

I am not qualified to comment on the direct risks to physical health of the nuclear industry in Japan but it is worth pointing out that the risks to mental health are determined by the perceived rather than the actual risks. For instance, we were informed that, although the leakage of radioactive water from the Fukushima reactors continues, detailed studies of fish in the sea have shown no evidence that this is yet getting into the food chain. Even so the sales of fish caught from adjacent waters have plummeted and supermarkets are advertising the fact that they are not selling fish from the waters of northern Japan.

Direct effects of tsunami on health of survivors

Another potential cause of both morbidity and mortality, which is more relevant to this report, is the influence of high levels of stress and grief on the health of those whose lives were disrupted by the earthquake and tsunami in Japan.

Having been involved in an assessment of the other large scale tsunami in the Indian Ocean in 2004 on behalf of *Help the Hospices* (Parkes & Dent, 2014), I was able to provide information and relevant literature to my colleagues in Japan some of whom set up a Japanese *Disaster Support Project* based partly on our recommendations (Setou, 2012).

Although Japan is very different from India there are points of similarity in the fact that many of those affected by the two tsunamis were fishermen from coastal communities and with experience of previous disasters. In India the increase in symptoms of traumatic stress that arose in the first months following the disaster soon decreased but our observations (Parkes & Dent, 2004) of more enduring depression and alcoholism, notably among fishermen who had lost their homes, and many of them wives and children, were subsequently confirmed by Tharyan (2005).

Research in Japan showed increased levels of post-traumatic stress in a population studied before and three months after the tsunami (Kotozaki & Kawashima 2012). Sekiguchi *et al* (2013) compared MRI scanned images of 42 medical students in Sendai before and three months after the tsunami. Here waves had flooded the streets and the airport, sending cars and even planes swirling through the city while black smoke billowed from the burning

Nippon Oil refinery. Those students with higher (but still subclinical) scores of PTSD showed shrinkage of the orbito-frontal cortex after but not before the tsunami. This area is said to be involved in 'eliminating fear-induced memories' and may explain some of the psychic numbing described above. Organic changes in the brain sound ominous but other studies imply that they are not necessarily irreversible.

More ominous is a report in the *New England Journal of Medicine* which showed a rise in cardiac arrests during the first four weeks after the tsunami (Kitamura, Kiyohara and Iwami, 2013). This was statistically significant in women throughout and in men over 75 during the first two weeks and following aftershocks. My own research on mortality in British widowers showed an increase in mortality rates, mainly from cardio-vascular causes, maximal during the first six months and declining to equal rates in married controls at four years post-bereavement (Parkes, Benjamin & Fitzgerald, 1969). This has been replicated in other countries in more recent years (Kaprio, Koskenvuo & Rita, 1987).

In subsequent follow-up studies of mental health after the Tohoku earthquake and tsunami (reviewed by Kyutoku *et al* 2012) most subjects improved rapidly and those who experienced such transient symptoms were found to be resilient on measures of post-traumatic growth and quality of life. They were, perhaps better prepared for such events than the inhabitants of Britain and the USA when faced with disasters and bereavements. Kyutoku's group also report that those who suffered longer term stress were more vulnerable to PTSD, depression and general anxiety.

Relocation of communities

Our visit to the tsunami-stricken area was itself delayed, while changing trains in Tokyo, by another typhoon which brought railways to a halt and killed up to 50 people. But this was in no way comparable to the widespread devastation produced by the Tohoku earthquake and tsunami two and a half years earlier. Following that event 326,000 people were made homeless and are now rehoused in temporary basic accommodation on higher ground leaving large areas where grass and weeds now grow alongside the roads that once served lines of houses. The desolation is widespread and once-thriving villages and townships are now demolished. Aftershocks are still taking place from time to time and many Japanese are reluctant to rebuild in the fertile river valleys for fear of another tsunami.

We were told of a disagreement that had arisen in some places where a mayor had decided that displaced people should draw lots to be rehoused in the first available housing. In other areas rehousing was delayed until sufficient homes enabled friends and neighbours to be housed in the same vicinity. Thus community support systems have remained intact. Although the first method

sounds like a just way to assign housing, it effectively destroys the communities from which the people came.

Evidence supporting the second alternative comes from comparing the outcome of two other disasters; both took place in coal-mining communities who were inundated by accident. One, Buffalo Creek, in the Appalachian mountains of West Virginia in February 1972, took place during heavy rain when a spoil heap of coal waste (slurry) that had been dumped over and dammed a stream, burst through the dam, and a black 'ocean' of mud inundated three linear villages in its path. The other took place in another mountainous area, Aberfan, in South Wales in 1966 and was my first experience of working in a disaster area. During similarly heavy rain, a spoil heap of coal slurry that had been dumped over another stream above the village, liquefied into an avalanche of mud having four times the weight of water. This roared down the mountainside to destroy a line of houses and the village school, shortly after morning assembly.

"... the restoration of community is an important aspect of care following disasters"

In Buffalo Creek 125 people died and 151 homes were destroyed. Many people had lost family and home. In Aberfan 144 died (116 of them children) and 21 homes were destroyed. The greatest differences between the two disasters were the large proportion of children lost in Aberfan and the larger number of homes lost in Buffalo Creek. In Aberfan, although grants were given to enable survivors to move out of the village and buy homes elsewhere, only five opted to do so; the rest remained within their community. In Buffalo Creek displaced persons were relocated, more or less at random, across no less than thirteen trailer parks. Two years after the disaster, Kai Erickson reported high levels of insecurity, anxiety, depression and '... the loss of communality on Buffalo Creek has meant that people are alone and without very much in the way of emotional shelter. ... There is no one to warn you ... care for you, ... rescue you ... or mourn for you ... and in the long run – the community can no longer ... edit reality in such a way that it seems manageable' (Erickson 1979 p189). In Aberfan the community remained intact and, although it was riven by grief and anger throughout the first year after the disaster, it came together thereafter (Parkes, 1979). Five years later, Aberfan proudly took a lead in hosting a series of conferences on 'community development' (Ballard and Jones 1975). Over the same five years the birth rate in Aberfan increased, by comparison with the birth rate in surrounding areas, to a level at which the extra births exceeded the number of children killed in the disaster (Parkes & Williams, 1975).

When these findings were reported in the press the authors received a number of letters from bereaved parents pointing out that you cannot replace a dead child. Of course, they were right; the dead cannot be replaced. Indeed it was not bereaved mothers who were having more babies, most of them were beyond reproductive age, it was other women who were restoring the community.

Iwate

I have dwelt on these findings because they confirm the observations made by Dr Kotaro Otsuka, Research Professor in the Department of Disaster and Community Medicine at Iwate Medical University, that the restoration of community is an important aspect of community care following disasters. Iwate is the prefecture in which many towns and villages had been destroyed by the Tohoku earthquake and tsunami. Dr Otsuka introduced us to a community group of elderly survivors in the township of Kuji. Some had lost homes, family and fishing boats, but, despite that day's typhoon, they appeared to be in good heart. They had been well supported by volunteers from other parts of Japan and backed by Japanese professionals including some from the United States. Being an elderly couple ourselves we could communicate non-verbally, touching and singing together.

Most displaced persons have been provided with temporary accommodation which fulfils basic needs but little else. Land has been cleared for more permanent accommodation but building is only now beginning and lack of a decent home is the main complaint that we heard. Despite this, many of the inhabitants of temporary homes are growing a few vegetables and flowers on any open areas in the vicinity.

We visited two homes where we were received with kindness by elderly survivors. One old lady had rescued a dog whose back had been broken during the disaster. His hind legs were paralysed and he was incontinent. He wore a wide plastic collar to prevent him from biting his useless legs. Like most house dogs, he started barking as we entered the house and continued to bark weakly throughout our visit. Our immediate reaction was one of horror at the sight of this poor animal and to blame the lady for not having him 'put down'. When I asked her to explain her treatment it became clear that she was very attached to the animal and had nursed it in much the same way as a mother nurses a sick child. Her daughter comes in each day to help but the old lady is on her own through much of the day and the dog keeps her company.

At times of disaster all attachments grow stronger. In this case the dog can only give physical security by barking at strangers, but the owner, whose own physical disabilities are considerable, may get some sense of purpose in her life by caring for the dog and it may well be that the dog too gets some emotional reward from the attachment. The lady

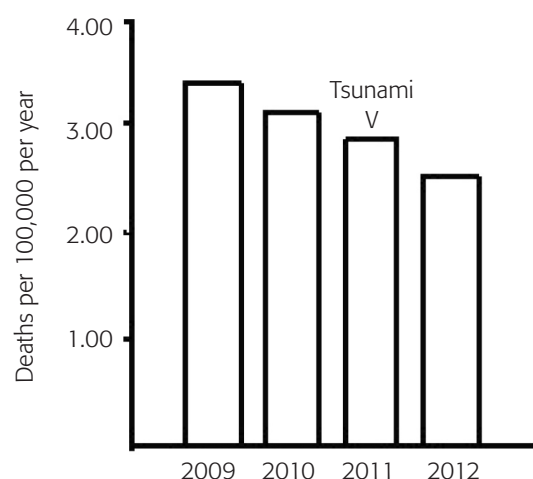
did not ask for my advice and I did not see it as appropriate to give any. Even so, the ethical issues involved are not dissimilar to those arising when it is a loved human being who is on life support. At what point does it become kinder to take active steps to end a life when the quality of that life is poor?

The other home visited was that of a fisherman and his wife. He spoke with pride of the number of salmon that he has caught in the past but has no idea when or if it will ever be safe and economically possible to fish again in this area. Another ethical problem seems to have arisen when we consider at what point it is kinder to take away an elderly fisherman's hope that he can expect to return to the sea rather than to leave him in the limbo of uncertainty of what Setou (2012) calls 'ambiguous loss' (see below).

Suicide

No report on the consequences of major disasters in Japan would be complete without an examination of their effect on suicide rates. We might expect these to have increased following the tsunami, particularly when we consider that unemployment is one of the most powerful predictors of suicide levels in Japan (Kuroki 2009). On the other hand studies following earlier earthquakes in Japan have shown that, on the whole suicide rates in men have decreased in the affected areas by comparison with control groups (Nishio *et al*, 2009 and Hyodo *et al*, 2010). Nishio *et al* showed no effect on the suicide rate on women after the Hanshin-Awaji earthquake, while Hyodo *et al* found women at increased relative risk year by year in the three years of follow-up after the Niigata-Chuetsu earthquake. Recent figures on the much greater Tohoku earthquake and tsunami, kindly provided by Kotaro Otsuka, can be seen in the Figure. They show an overall reduction in suicides in the years preceding the Tohoku tsunami in Iwate and a slightly greater reduction since the earthquake/tsunami.

Suicide Rate in Iwate Province 2009–12



Why should this be? We can only speculate but I am inclined to agree with my Japanese colleagues that the underlying reason for the association between suicide and unemployment in Japan results from the shame to which it gives rise. No such shame exists when the unemployment is attributable to a tsunami, indeed, as we have seen, natural disasters often draw communities together and may provide the support which counteracts the social disintegration which Durkheim believed to be a root cause of many suicides (Durkheim, 1997).

“When the old get together, they do not bring back the dead, they accept the gift of their lives.”

Two and a half years after the great tsunami the people whom we were able to visit, most of them in the older age group, seemed to be responding well to both the restoration of communities and the tender, loving care given by both volunteers and professionals. These supporters cannot promise long life but they can and do bring comfort and social support and they reassure elderly survivors that they are not alone.

When the old get together they do not bring back the dead, they accept the gift of their lives. I can speak as one of them, for I too have reached the age when funerals are more common than weddings. As our appetites for life dwindle, we can stop looking forward and enjoy the past, the old tunes, the happy memories, the old loves; these are our treasures. As one old lady said to me shortly before she died, ‘Life’s like a good meal. When you are full up you do not need a second helping’.

Other agencies providing support

Following our visit to Iwate we returned to Tokyo where, after my lecture on ‘*Grief Care after Disasters*’ I was able to meet other professionals who told me about their services for disaster victims. These included Professor Noriko Setou who, with Chikako Ishii and Kayoko Kurokawa had set up the *Japan Disaster Grief Support Project* (JDGS). They had recognised from the outset that grief was only one among many problems that would affect the survivors. They needed to ensure that those providing support to victims were trained in trauma management, major life change (Psychosocial Transitions), depression and other problems as well as bereavement care. This training was carried out using leaflets, study and training groups. Several of these were set up in areas affected by the disaster and their advisers included Katherine Shear whose methods of intervention when grief is complicated are supported by well-conducted random-allocation studies (Shear *et al*, 2005).

They also established two websites, one to assist persons who had lost close family members in the disaster, the other for those suffering ‘ambiguous losses’. These include families who have lost contact with next-of-kin, and people who have lost their homes and are uncertain that they will be able to return due to persisting radioactivity. In both cases it is living with uncertainty that makes it very difficult to plan for the future. The websites also made it possible for people to download several leaflets for particular issues. Over 20,000 persons have visited the web sites since they opened.

Another significant organisation is the *Japanese Society for Traumatic Stress Studies* which was set up in 2002 in the aftermath of the Hanshin Earthquake. This has played a part in training professionals in the field of traumatic loss but, as in other parts of the world, without adequate attention to the particular problems of bereavement. This is not surprising when we bear in mind the fact that it was only in 2013 that *Persistent Complex Bereavement Disorder* (PCBD) and *Separation Anxiety Disorders of Adult Life* (SAD) have been included in the fifth edition of the *Diagnostic Statistical Manual of Mental Disorders* (DSM-5), the former only as a category for further research.

“By reaching out to the victims of disaster in Iwate the citizens of Hiroshima are bringing something good out of the greatest man-made disaster, the atom bomb.”

Conclusions

It might have been expected that the many disasters to which the Japanese have been exposed would have given rise to well-developed trauma and bereavement services but, until the Tohoku Tsunami, this was not the case. Perhaps this reflects the traditional macho attitude to stress that pervades Japanese society and we should not assume that the fortitude that is evident in most Japanese people is necessarily harmful. Even so, as we have seen, there is evidence that it is not only the Tohoku disaster that has given rise to an increase in problems of psychological adjustment and neurological functions.

It is too soon to assess the effectiveness of the services that have now been introduced and it is hoped that systematic studies can now be carried out to compare recovery in areas with and without such services.

Of course, bereavement is only one of the many losses that can cause grief and its complications. In disaster areas

these losses often include losses by death, injury, loss of homes, jobs and much else. Thus multiple and varied losses are the rule rather than the exception. Fortunately the lessons learned from studying bereavement by death are now being found relevant to the care of people who have suffered a wider range of losses.

It would be unwise to over-generalise from a limited experience of Japan but I was struck by the evidence of benefit from community care in the tsunami-affected area and by writing and sharing thoughts and feelings reported by hibakusha and reflected in the booklet they published six decades after the bomb. This said, whether or not they see their book as therapy, they also see it is a duty to the dead. 'We ask their forgiveness for having made them wait so long.' Implicit in this statement is an assumption that the very act of facing up to the horrific reality of the loss can be of service to others. The hibakusha's 'prayers for peace' are prayers for peace on this earth not the next and they are directed at us as well as the dead, for if peace comes out of their prayers the dead will not have died in vain.

We would all do well to heed these prayers. After the bomb Hiroshima played a large part in supporting peace processes across the world. If, as I suspect, there are other hibakusha who are only now ready to join in these prayers, they may be able to lend fresh impetus to Hiroshima's role, both real and symbolic. This is all the more necessary at this time, when people are in danger of losing their vigilance and ignoring the real dangers of nuclear accidents, distressed states and extremist leaders with control of weapons of mass destruction. Climate change can only aggravate the risk of major disasters and international conflicts.

By reaching out to the victims of disaster in Iwate the citizens of Hiroshima are bringing something good out of the greatest man-made disaster, the atom bomb. It is to be hoped that, in the years to come, the lessons that have been learned from the care provided to the victims of disasters in Japan will help us all to follow their example, responding effectively to some disasters and preventing others. ■

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