

WHICH PERSONS AND ORGANIZATIONS WILL BE RELIED UPON THE MOST IN THE CASE OF THE NEXT MAJOR DISASTER?

- Results from the random sampled social surveys of the disaster victims of the 1995 Kobe earthquake and the 2004 Mid-Niigata earthquake disaster -

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ABSTRACT :

Once a major disaster hit a community, its victims immediately begin to suffer from many devastating situations. They need various kinds of help and support from various sources in order to repair the damage sustained in the disaster, and to return to their normal lives. Many types of organizations try to help them to this end. In this context, it is relevant to ask exactly what kind of help does a victim rely upon the most? In order to discover the answer to this pertinent question we conducted random social surveys in the areas affected by the 1995 Kobe Earthquake and the 2004 Mid-Niigata Earthquake. We asked the victims about their attitudes towards the help and support that had been provided to them from various sources. The actual questions we composed were structured as follows: If another damaging earthquake occurred, you might need personal and emotional support, material and financial assistance, or assistance in receiving vital information. For each of the following persons, facilities and organizations, please indicate in which ones you have trust and confidence in terms of receiving personal and emotional support. Please circle all those in which you have trust and confidence, and double-circle the one in which you have the most trust and confidence." 24 names of organizations and individuals were then listed below the question.

In both the urban and the mountainous areas, personal and emotional support was sought from close family, such as partners and children. Additionally, urban victims placed confidence and trust in the abilities of lifeline services and industries to provide such support, whilst rural victims placed greater value on the local administration and relatives. In terms of material and financial assistance, victims from the mountainous area showed strong expectation towards government assistance, whilst urban victims saw the speedy recovery of normal lifeline utilities as constituting material and financial assistance. Finally, in terms of assistance in receiving vital information, victims in both the urban and the mountainous areas looked to the mass media to provide them with information about the scale of the disaster and wider recovery and reconstruction, and to governmental administrations for information about more immediate life recovery and relief.

KEYWORDS: quantitative survey, support for victims, personal and emotional support, material and financial assistance, assistance in receiving vital information

1. INTRODUCTION

Major disasters cause sudden, large-scale shifts in the living environments of those people affected. As a result of a major disaster, victims may sustain both person and material damage, and struggle to carry on with their ordinary lives as normal. In the extraordinary days that follow any major disaster, then, in order for the victims to be able to re-establish their everyday lives, effective aid from supporters, working in both mutual assistance and public assistance, is vitally important to supplement the self-help efforts undertaken by the victims themselves.

This research sought to uncover the true state of assistance provided to victims in the wake of major disasters, by undertaking a qualitative survey of victims of two major earthquake disasters. It also sought to consider how disaster relief and assistance could be most effectively provided in the wake of the next major disaster.

2. SURVEY DESIGN

2.1. *The two major earthquake disasters considered in this survey*

Two major earthquake disasters that occurred in Japan formed the basis of our survey of disaster victims, the Kobe (Hanshin-Awaji) Earthquake that struck on January 17 1995 and the Mid-Niigata Earthquake that struck on October 23 2004. 6437 people died as a result of the Kobe Earthquake, and around 250,000 homes were either fully or partially destroyed. It was an urban disaster in a major urban centre containing both a concentrated population and complex and advanced urban infrastructure. The Mid-Niigata Earthquake, by contrast, had a death toll of 68 people, and around 16,000 homes were either fully or partially destroyed. It was an intermediate and mountainous area disaster, striking an intermediate and mountainous area in the rice producing area of Japan. By highlighting the nature of assistance provided to victims of disasters in these two areas, we sought to investigate how disaster victims relief should be provided in urban and in mountainous regions.

The data used in this report is from a survey about the Kobe Earthquake undertaken in January 2001, six years after the earthquake struck, and from a survey about the Mid-Niigata Earthquake undertaken in October 2005, two years after that earthquake struck. Table 1 shows the survey results. Using a stratified two-stage sampling method, each survey randomly sampled the afflicted area, and then the final survey targets were sampled with the probability proportional to size so that one person from one household was sampled based on the Basic Resident Register of each municipality. The response rate was as high as 36.5% in the January 2001 survey, which was six years after the Kobe Earthquake. We feel that the response rate indicates that there is still high interest among the victims in the Kobe Earthquake and that our questionnaire was easy to respond to. Therefore, we believe the reliability of the survey results is high.

For the survey frame and analysis of survey items other than support for victims, please refer to Kimura et al., 2001, Hayashi(eds.) 2002, for the 2001 survey on the Kobe (Hanshin-Awaji) Earthquake, and Kimura, 2007, Kimura et al., 2007, for the 2006 survey on the Mid-Niigata Earthquake.

Table 1 Overview of two surveys

	the Kobe Survey in January 2001	the Mid-Niigata Survey in October 2006
Earthquake occurred in	17 January 1995	23 October 2004
Surveyed Area	Areas where 7 on the seismic scale was recorded and gas was stopped + Kobe City Kita ward and Nishi ward	Areas in Nagaoka City, Ojiya City, and Kawaguchi Town, where 6 lower on the Japanese seismic scale was recorded
Surveyed person	Man and woman 20 years or older	Man and woman 20 years or older
Sampling	Sampled from resident register using stratified two-stage sampling	Sampled from resident register using stratified two-stage sampling (each 50 points in Nagaoka City and Ojiya City, 7 points in Kawaguchi Town, 20 residents per point)
Number of surveyed persons	3,300	2,140
Number of effective answers	1,203	1,013
Rate of effective answers	36.5%	47.3%
Method of survey	Fill out questionnaire sent by mail and collect it by mail	Fill out questionnaire sent by mail and collect it by mail

2.2. Structuring the survey questions

In order to establish exactly what kind of assistance was provided to disaster victims, the survey questions were structured using the following three techniques.

Firstly, victim support was divided into three aspects: personal and emotional support, material and financial assistance, and assistance for receiving vital information. Simply asking “who provided you with support?” will not help us to understand the specific nature of the support provided, and therefore will not enable us to take steps towards providing more effective assistance when disaster next strikes. Our research, then, splits the support provided into three categories - personal and emotional, material and financial, and vital information – in order to avoid this potential pitfall.

Secondly, we structured the mode of expression used in the survey questions in order that disaster victims could not directly evaluate the providers of support. If, for example, we were to ask “Which persons, facilities and organizations were useful in providing you with material and financial assistance after the 1995 Kobe Earthquake? Please circle all those applicable”, this makes it possible for the respondent to refuse to answer the question, responding perhaps instead that “the scale of support may have differed, but everyone did what they could! I will not single out certain people only.” Equally he or she could circle all of the possible answers. In order to avoid this, care was taken over the structure of our survey questions, for example: “If another damaging earthquake were to occur, in which of the following persons, facilities and organizations providing support would you have trust and confidence in terms of receiving financial and material assistance? Please circle all those applicable.” Asking the questions in this way makes it possible for us to reveal the evaluation of, and expectations towards, providers of assistance that disaster victims have, by inquiring as to whom they would look towards in a future disaster as a result of those persons or organizations already having providing them with meaningful support in the past.

Thirdly, we drew up two distinct patterns within questions. By asking, “if another damaging earthquake were to occur, in which of the following persons, facilities and organizations providing support would you have trust and confidence in terms of receiving financial and material assistance? Please circle all those applicable”, there is a risk that the respondent will exhaustively circle all of the possible answers. As such, we drew up questions with two pattern answers: “If another damaging earthquake were to occur, in which of the following persons, facilities and organizations providing support would you have trust and confidence in terms of receiving financial and material assistance? Please circle all those applicable. Please also double-circle the ONE in which you have the MOST trust and confidence.” The multiple answers (MA, singly circled) gleaned from such a question, then, allow us to discover the evaluation of the victims – revealing all of the persons, facilities and organizations in which they would place trust and confidence in a subsequent earthquake disaster, based upon their own experiences of earthquake disaster. By contrast, the single answers (SA, doubly circled) help us to understand their true expectations – revealing who they would really look to for support in the event of another disaster.

Using these three techniques, earthquake victims provided us with their evaluations of 24 categories of person, facility and organization that provided support after the Kobe Earthquake, and 29 categories of person, facility organization that support provided support after the Mid-Niigata Earthquake.

3. RESULTS

3.1. Support aspect determines the most effective supporter

Figures 1 through 6 illustrate the nature of support provided in the three aspects of personal and emotional, material and financial, and vital information. The figures have been ordered according to the results of the Mid-Niigata Earthquake victim’s survey, starting at the left with those categories receiving the highest number of responses. Figures 1 through 3 show the results obtained from asking who the victims thought they would be able to rely on in the event of a disaster, whereas figures 4 through 6 show the results obtained from asking who the victims would most like to turn to for support.

Looking at the results showing in which support providers the victims had trust and confidence in terms of receiving personal and emotional support (multiple answers, Figure 1), we can see that, in the 1995 Kobe Earthquake, close relatives such as partner (69%), children (66%) and siblings (56%), together with public bodies such as lifeline services and industries (57%), medical services (52%) and the police/fire service (39%) scored highly as providers of support. In addition to blood relations, victims of the 2004 Mid-Niigata

Earthquake also looked to local community connections such as neighbors (70%), community and town associations (42%) and city administrations (55%) for support. In terms of the persons, facilities or organizations the victims would have the most trust and confidence (single answer, Figure 2), one's partner scored significantly higher than any other option in both the urban and the intermediate/mountainous area (urban: 42%, mountainous: 36%), followed by children (urban: 12%, mountainous: 12%). Whilst in the mountainous area local community connections such as the city or town administration (10%) and neighbors (10%) were also expected to provide support, in the urban area this expectation was placed rather upon lifeline services and industries (8%).

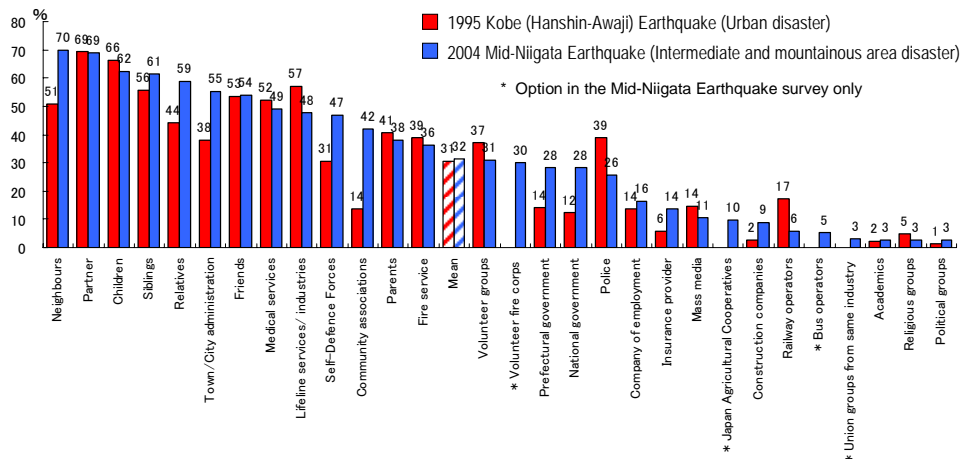


Figure 1 Persons, facilities and organizations in which victims would place trust and confidence in terms of receiving personal and emotional support in the event of another disaster (multiple answers possible) (Arranged right to left, in order of highest number of responses from the Mid-Niigata Earthquake victims survey.: same as Figure 1 to Figure 6)

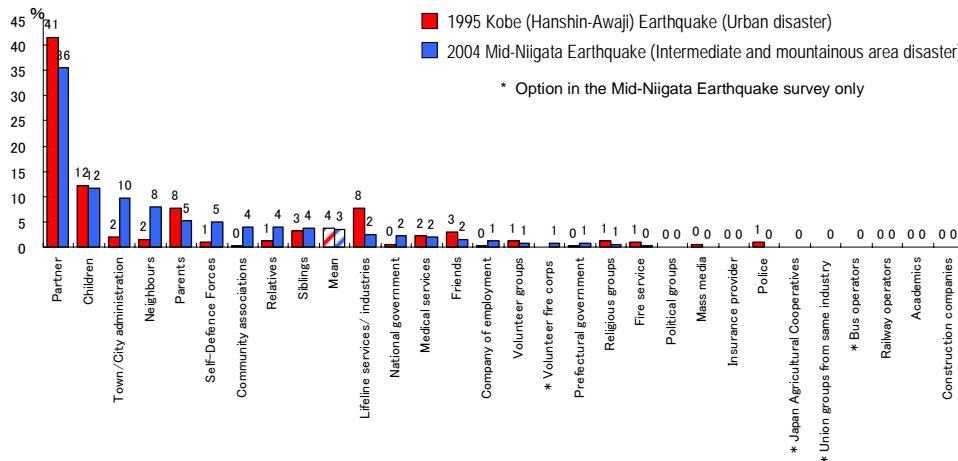


Figure 2 Persons, facilities or organizations in which victims would place the most trust and confidence in terms of receiving personal and emotional support in the event of another disaster (single answer)

Looking next at the results showing in which support providers the victims had trust and confidence in terms of receiving material and financial assistance (multiple answers, Figure 3), victims from the urban center looked most to lifeline services and industries (57%), city administration (54%), followed by various family relations, such as relatives (44%). The results for the mountainous area showed most confidence in the local city or town administration (69%), followed by various family relations, such as relative (52%). These trends were repeated in the results for of the persons, facilities or organizations the victims would most like to rely on for support (single answer, Figure 4), with victims in the mountainous area looking primarily to local governmental authorities for assistance, whilst expectations for material and financial assistance amongst urban victims were concentrated on the rapid reestablishment of lifeline utilities. We can surmise from these results that the

victims' assessments and expectations are based on such factors as urban areas being strongly reliant on the lifeline utilities, a lack of back-up plans in the event of any stoppage of these lifelines, and that so-called life reconstruction support systems are qualitatively limited and hard to disseminate in the case of a large urban population.

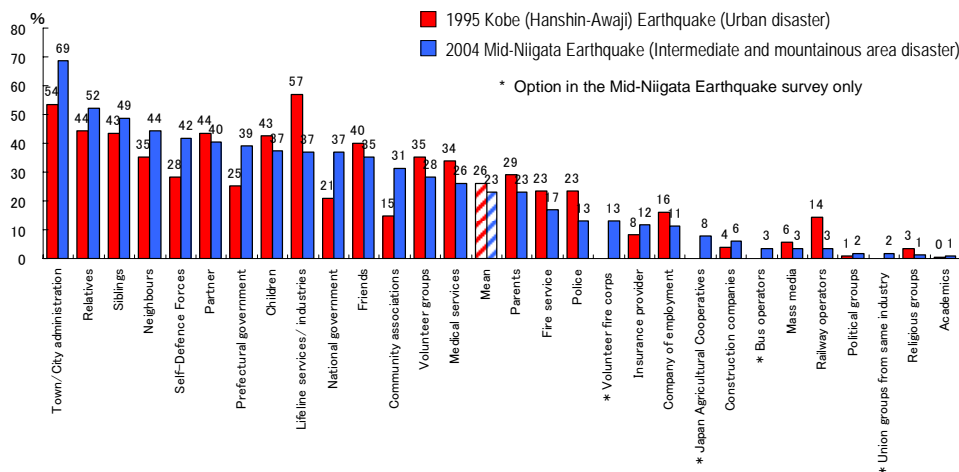


Figure 3 Persons, facilities and organizations in which victims would place trust and confidence in terms of receiving material and financial assistance in the event of another disaster (multiple answers possible)

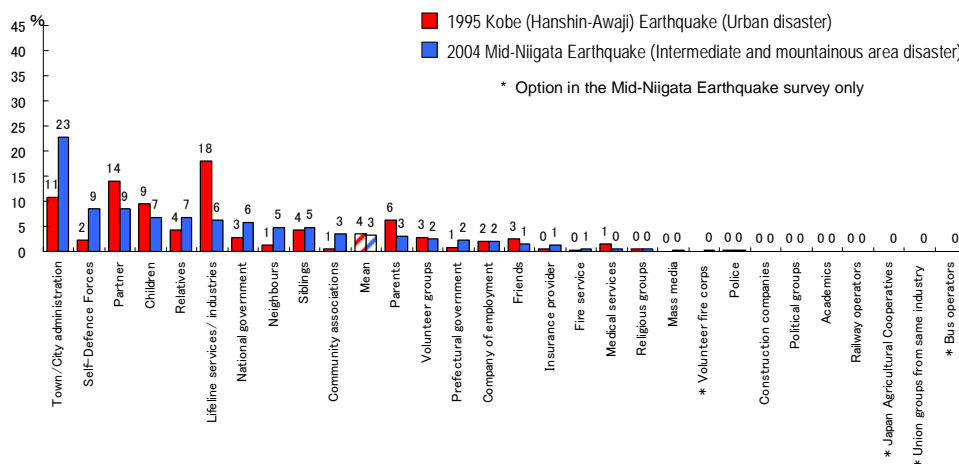


Figure 4 Persons, facilities or organizations in which victims would place the most trust and confidence in terms of receiving material and financial assistance in the event of another disaster (single answer)

Finally, looking next at the results showing in which support providers the victims had trust and confidence in terms of receiving assistance in receiving vital information (multiple answers, Figure 5), both the urban and mountainous areas looked to the mass media (urban: 41%, mountainous: 30%) and town or city administrations (urban: 20%, mountainous: 32%) as the main sources of information. The same trends were repeated in terms of those persons, facilities or organizations the victims would place the most trust and confidence (single answer, Figure 6). From further interviews with victims we were able to establish that they looked to the mass media for information on the scale of the disaster and on wider social recovery and reconstruction, and to the local administration for information on more immediate life recovery and relief. It appears that victims look to the mass media and the local administration, therefore, as two distinct 'channels' providing information of two distinct natures, and expect both sources to provide them with the information which they are seeking.

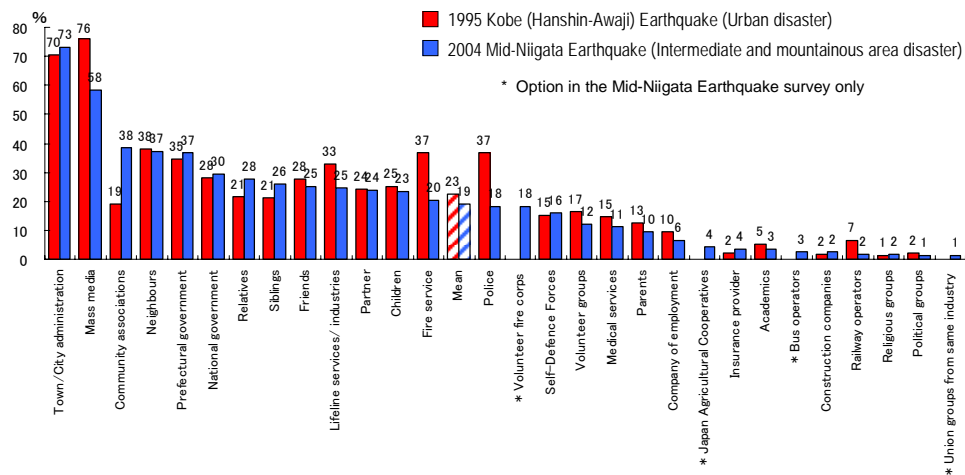


Figure 5 Persons, facilities and organizations in which victims would place trust and confidence in terms of receiving assistance in receiving vital information in the event of another disaster (multiple answers possible)

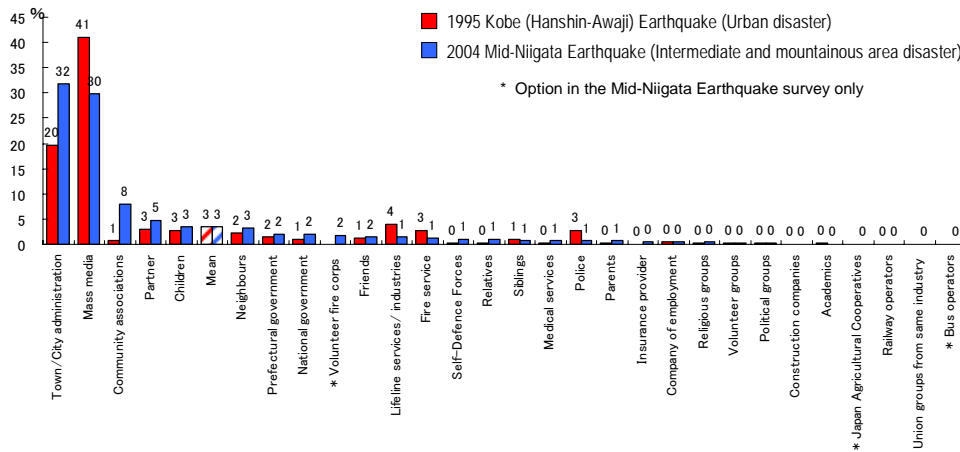


Figure 6 Persons, facilities or organizations in which victims would place the most trust and confidence in terms of receiving assistance in receiving vital information in the event of another disaster (single answer)

3.2. Urban disasters unable to benefit from community connections

Figures 7 and 8 show the overall attitude towards support and assistance displayed by our survey respondents. Taking Figure 7 as an example, support providers are shown within the three circles (ellipses) representing personal and emotional support, material and financial assistance, and assistance in receiving vital information. Their presence in the ellipses indicates that they received above average scores in each relevant aspect. Figure 7 shows, then, that the mass media received an above average score in terms of providing assistance in receiving vital information, that volunteer groups received above average scores in terms of both personal and emotional support and material and financial assistance, and that the lifeline services and industries received above average scores in all three aspects of victim support. These figures allow us to construct an overall picture of the support provided to disaster victims, through a clear representation of who victims see as providing them with support, and how effectively.

Looking at the individual people being assessed as support providers (multiple answers, Figures 7), we can see that, unlike the urban area, disaster victims in the mountainous area were able to place trust and confidence in the mutual assistance provided through both extended family ties, such as relatives and siblings not living with the victims' family, and local community ties, such as local community and town associations. This was the case for all three aspects of support. Moreover, for both the urban and mountainous areas, most individual support providers which recorded above average scores also scored highly in terms of victims' confidence in looking to them for material and financial assistance. What this implies is that, setting aside those support providers who offer specialized or limited assistance, such as the mass media, the police and the fire service,

considering how support providers could best provide material and financial assistance that is appropriate to the needs of victims at the time of a major disaster will contribute to the improvement of the overall support structures available to victims at such times.

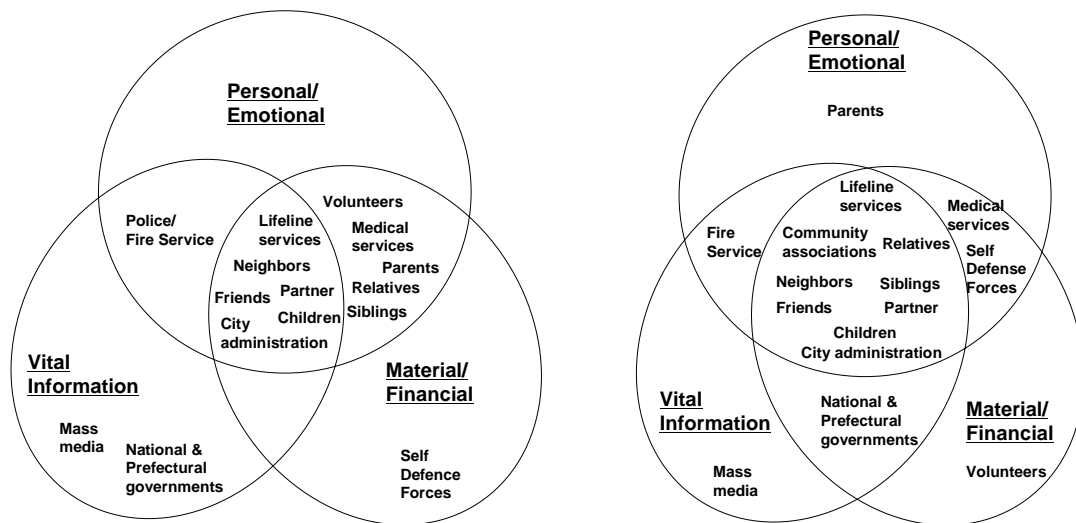


Figure 7 Persons, facilities and organization in which victims would have trust and confidence in terms of receiving support in the event of an earthquake disaster (multiple answers possible)
 (left figure: 1995 Kobe Earthquake victims, right figure: 2004 Mid-Niigata Earthquake victims)

Furthermore, results on the persons, facilities or organization in which victims would place the most trust and confidence in terms of receiving support in the event of a subsequent disaster (single answer, Figures 8), victims from the mountainous area were confident that they would received support from all corners, both from the local community in the shape of the local administration and community associations, and from family, such as partners and children. This clearly shows the strength of the social resources available to the communities in the mountainous area examined in this survey, which allows the community to overcome the adversity brought about by disaster through a close network of family and relatives, as well as the local community and local organizations. It also shows the contrastive vulnerability shown by urban areas, which cannot rely on such social resources.

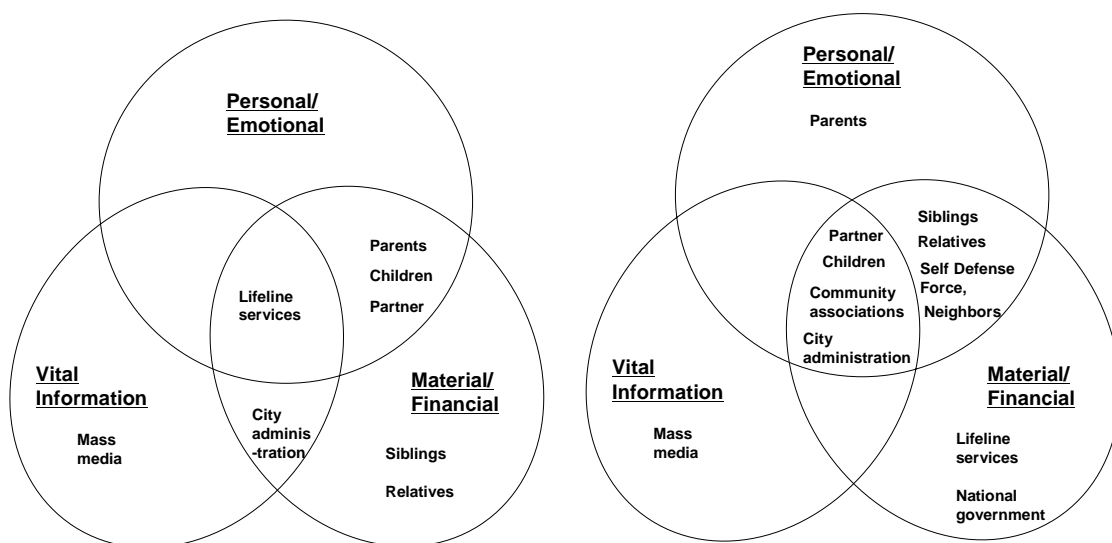


Figure 8 Persons, facilities or organization in which victims would place the most trust and confidence in terms of receiving support in the event of an earthquake disaster (single answer)
 (left figure: 1995 Kobe Earthquake victims, right figure: 2004 Mid-Niigata Earthquake victims)

In addition, it was significant that the only support provider in the intersection of all three circles was the lifeline services and industries. For disaster victims living in urban areas, the timely recovery of lifeline utilities – stopping gas leaks, fixing the electricity supply, ensuring running water is available and that toilets can be flushed – is more than just the reinstatement of normal social flow; it is seen as an overall relief service, significant in terms of all three aspects of support – personal and emotional, material and financial, and vital information – in which great trust and confidence is placed.

These results suggest that, in crowded urban areas, it is simply not possible for government administrations to provide precise and tailored support to the entire body of victims. In the case of mountainous areas, government administrations should be working to strengthen and improve disaster response policy to allow local authorities to take charge in the event of any subsequent disasters, and make use of relief structures and systems that are strongly focused on local community ties. By contrast, families and lifeline services should be looked to in urban centers to provide overall support to victims, whilst ensuring that there is an ample safety net – in the form of public assistance - available for any victims who slip through the cracks. These seem to represent the optimal structures for the effective provision of support and assistance.

4. CONCLUSIONS

Having divided the support provided to disaster victims into the three categories of personal and emotional support, material and financial assistance, and assistance in receiving vital information, this research sought to determine the nature of the support provided to victims, the victims' evaluation of that support, and their future expectations in any subsequent disaster.

In both the urban and the mountainous areas, personal and emotional support was sought from close family, such as partners and children. Additionally, urban victims placed confidence and trust in the abilities of lifeline services and industries to provide such support, whilst rural victims placed greater value on the local administration and relatives. In terms of material and financial assistance, victims from the mountainous area showed strong expectation towards government assistance, whilst urban victims saw the speedy recovery of normal lifeline utilities as constituting material and financial assistance. Finally, in terms of assistance in receiving vital information, victims in both the urban and the mountainous areas looked to the mass media to provide them with information about the scale of the disaster and wider recovery and reconstruction, and to governmental administrations for information about more immediate life recovery and relief.

Looking at the nature of the overall support provided to victims, our research has made clear that whilst victims in the mountainous area had expectations for overall support provided holistically from both local communities ties, such as the local authority and community associations, as well as family and blood ties such as partners and children, urban victims looked to lifeline services and industries to provide overall relief. As well as highlighting the paucity of social resources in urban communities, the victims' evaluations have clearly shown that the current disaster management policy, in which overall victim support is left to the lifeline services and industries and the government provides a safety net in the form of public assistance, is an effective approach.

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