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## Case Study

# Investigating Older Persons and NGOs Flood Preparedness to Reduce Vulnerabilities Associated with Ageing: A Case Study

*Sharifah Norazizan Syed Abd Rashid, Mohd Rizal Hussain, Mohamad Fadzillah Bagat, Amna Md. Noor, Bukryman Sabri*

Malaysian Research Institute on Ageing (MyAgeing), (formally known as Institute of Gerontology)  
Universiti Putra Malaysia, 43400 Serdang, Selangor, MALAYSIA

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**Abstract:** The impact of natural disasters on the older population is unlikely to diminish in the years to come due to the increasing number of older persons in Malaysia. Recent trends with respect to management of natural disasters have highlighted the role of NGOs in all phases of disaster management namely preparedness, response, recovery and mitigation. Research showed a notable difference emerged between the perceptions of the older persons, and those of the respondents from aid agencies (government and NGO) dealing with emergencies. In this research paper, information on specific needs and problems faced by older persons during the 2014 flood as well as the NGOs perceptions towards them were identified. It also studied the impact of flood disaster on older persons. Their preparedness to face emergencies and the suitability of the relief programs organized by NGOs were investigated. A mix method approach was adopted in this research which include qualitative (Focus Group Discussion) and quantitative (face-to-face interview) survey. Data was analyzed using Statistical Package for Social Science (SPSS). Based on findings from the FGDs conducted, there was no Standard Operating Procedure on flood relief for the older persons adopted by the NGOs. There is a clear need for SOPs to ensure proper guidelines and procedures in meeting the special needs of the older persons in times of disasters.

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**Keyword:** Preparedness; NGO; Malaysia; Older Persons; Flood.

## Introduction

Malaysia is experiencing a faster rate of ageing at lower levels of development. Tengku Aizan (2012) stated that Malaysia will double the aged population 60 years and over in only 23 years and the median age will reach 30 year old cut off in 2023. The 2010 census report indicated that of the total population of 28.25 million, about 2.2 million (7.78%) consisted of older persons aged 60 years and older. It is also projected that the number of older person aged 60 and above will reach 3.2 million by 2020. Growing number of older person makes them a significant part of our society. According to Department of Statistic Malaysia (2011), life expectancy for men in 2010 is 72 years and for women 76 years.

As the mean age of the population rises and the number and proportion of older person's increases, the risk of natural disasters severely impacting the health and welfare of the older person population will grow. The Asia-Pacific region is the most disaster-prone area in the world, with over 50 % of the world disasters occurring there. UNICEF EAPRO (2016) mentioned that the region experiences with regular frequency, geological hazards such as earthquakes and tsunamis, as well as with increasing frequency, weather-related hazards such as typhoons, floods, droughts and wildfires. Malaysia has not faced any major disaster until Johor state was hit by a massive flood in 2006–2007, followed by Pahang and Terengganu in

2008. However, Wan Ibrahim & Syarif Muhidon, (2015) in their study found that the 2014 unexpected and unusual flood in Kelantan, Terengganu and Pahang was the most significant and largest recorded flood, where Kelantan was the most severe and suffered the greatest damage with eight territories were affected severely. As stated by Su-Lyn (2015) in Kamarul Aryffin et al.(2015), it was considered to be a "tsunami-like disaster" in which 202,000 victims were displaced. Therefore, Haddow, Bullock & Coppola (2013) suggested that disaster preparedness is an important public education strategy, which conveys information about hazards, risks and actions to the general public. Preparedness according to Singh & Subramaniam (2009) is usually regarded as comprising measures that enable governments, organizations, communities, and individuals to respond rapidly and effectively to disaster situations.

Addressing age specific preparedness would also contribute to personal and community resilience. Consideration of older adults' disaster preparedness is an important area to address because in recent disasters, mortality and morbidity outcomes for older adults disproportionately affect this age group. Ensuring equal access for older people relies on making service providers more aware of the particular problems and obstacles they face. Philips & Morrow (2007) suggested to

include older people in the planning and delivery of services and supporting their capacity to live independent lives once the emergency has passed. According to Marten (2002) and Shaw (2003), NGOs is a formal (professionalized) independent societal group's organization whose primary aim is to promote common goals and diversity in tasks, goals and characterized by preliminary human activities, with focus on citizens' needs and demands. NGOs are another government support bodies for developments and programs especially in the community. It is a good approach if the NGOs focus on giving priorities to vulnerable groups like the older persons. Minimizing the disaster vulnerability of the older persons requires a solid understanding of the specific needs and traits of the older population, and identification of the risk factors that lead to their vulnerability. The key principle of good practice is to be aware of the presence of older person in an emergency and take active steps to locate, meet and assess their needs.

The study also looked into the experiences and impacts of flooding on the older persons. The roles and functions of the NGOs for disaster preparedness at all levels (community, district, state and federal levels) were identified. The findings can be used to develop an effective Standard Operating Procedures (SOPs) for NGOs that specifically cater for the needs of the older population and reduce vulnerability associated with ageing.

#### *Issues and Challenges*

According to Peek (2010), to date age specific research on older adults' disaster preparedness has been limited and little is known about how older adults interpret preparedness information. The older persons are particularly vulnerable if disasters strike, in that they are generally physically frail and have impaired sensory abilities and mobility restriction due to aging. Aldrich & Benson, 2008 stated that older persons are dependent on others for their daily activities, affecting their ability to respond and making them more vulnerable during disasters.

In principle, older persons may be recognized as a vulnerable group, but in practice, their particular needs are rarely met by the providers of emergency services. Response to the needs of the older persons following a disaster is challenging because of fundamental differences within this groups. Research by HelpAge International in 2014 revealed that a notable difference emerged between the perceptions of the older persons and those of the respondents from aid agencies (government and NGO) dealing with emergencies in terms of needs and problems faced during natural disaster. The needs of the older persons are not being met and that they are the most disadvantaged when it comes to aid. In addition, most of the older persons think that NGOs are unaware of the special needs of the older persons and do not think they are important or a priority. As the older persons continues to diversify in nature and demographic, society's response to their diverse disaster needs will also need to grow in complexity and comprehensiveness. Therefore, an understanding of older

person and natural disaster is fundamental to fulfil their special needs as well as to reduce vulnerability.

According to Chan (2012), there is a lack of stakeholder participation among the NGOs, even though the authorities have recognised their important role. This is likely due to the heavy dependence of communities on government, and the reluctance of government to relinquish responsibilities to the public. Public apathy may also be a reason for low public participation in disaster management. Therefore, capacity building is necessary. NGOs and other stakeholders should be involved together from the beginning, from pre-disaster preparedness to rescue and reconstruction. NGOs would be particularly effective in creating awareness and education on disasters.

#### **Methodology**

Qualitative (Focus Group Discussion) and quantitative (developed survey questionnaires) approaches were utilized in this study to achieve the research objectives. The Focus Group Discussion (FGD) is an acceptable technique to gather primary data and according to Babbie (2011) in Boateng (2012), it offers qualitative researchers the opportunity to interview several respondents systematically and simultaneously, strength of convenience, high face validity (Krueger, 1988) and generating social interaction in generating data (Merton et al., 1990, Morgan, 1996). A total of 36 participants were involved in this discussion and provided basic information regarding the 2014 flood disaster. This was carried out among the Federal and Local Authorities, NGO's and older persons in Kelantan and Selangor. The participants were divided into several groups. All FGDs were conducted by trained Moderators and assisted by Rapporteur (note-taker). Observations on selected areas impacted by the flooding were conducted looking specifically into details on facilities, infrastructures, operations, procedures and other related services provided by both the federal and local authorities and the NGO's.

Face-to-face interviews involving 400 older Malaysians aged 60 years and above was carried out by trained Enumerators using questionnaires developed based on findings from the FGD. The list of respondents was provided by the Department of Social Welfare Malaysia, Kuala Krai, Kelantan. Respondents were briefed about the study and asked to sign a consent form before participating in the study. The Questionnaire covers background information of the respondents such as their socio-economics and health status and specific questions related to issues, problems and needs during the flood disaster.

Data were analysed using Statistical Package for Social Science (SPSS) and used as input to develop Standard Operating Procedures (SOPs) for NGOs to meet the special needs of the older persons and reduce vulnerability associated with ageing.

#### **Result**

##### *Focus Group Discussion*

The NGOs were asked during the FGD with regards to their humanitarian views giving priorities to any particular vulnerable groups. Majority agreed that it was neither possible nor desirable to prioritise one group, such as older persons over others in emergencies. During the FGDs with NGOs, majority of the NGOs did not prioritise any particular vulnerable groups. They targeted whoever were the most vulnerable. However, the NGOs came to a consensus that emphasis be given to the older victims and proper plans be developed in collaboration with the government agencies. The 2014 flood showed that the NGOs have played an important role and a vital stakeholder in the conventional relief and response effort as part of the larger coordinated and collaborative system for disaster response. Role of NGOs in disaster response was more overwhelming than during disaster preparedness. The NGOs were involved in relief assistance supplementing the government efforts by collecting, stocking, transporting and distribution of relief materials to the affected community and documentation procedures.. The NGOs also provided assistance in terms of shelter and settlements. NGOs were not involve in the dissemination of early warning information and evacuation of communities in times of need. District administration should involve NGOs during this phase. The district administration’s lack of logistical support to the NGOs for the distribution of relief materials led to the unfair distribution of these relief materials to the older victims. This clearly showed the failure during the preparedness phase where there was a lack of cooperation, coordination and consultation between the GO-NGOs and the older persons. There was a lack of NGO involvement in the SAR (search and rescue operations) because of its highly specialised nature. However, the NGOs contributed in terms of helping with registration, disaggregated data collection and documentation

of the people evacuated. (This is supported by the IDIs with the local elderly where SAR operations were taken over by their local heroes). There was a mismatch between what the older victims needed in emergencies and what the NGOs delivered. During the disaster, there was loss of appliances and utensils and power cuts that lasted for a few days. Therefore following the disaster, what the victims needed were at least a 3 day supply of foods that require NO refrigeration, preparation or cooking. This is of importance for the older victims who may lack the ability to cook. Following the disaster, many NGOs from all over the country came into the rescue and without prior preparation and consultation among the NGOs themselves and the district management. There was a clear evidence of duplication of relief materials. Instances where lorry loads of similar relief food and materials were brought in which led to wastage and failure to meet needs. The relief given was not based on a systematic assessment of needs. For the NGOs, the initial response was to provide material relief and rescue operations (to the extent possible) during the disaster. However, large NGOs also international aid do contribute in activities like providing temporary shelters and reconstruction of houses.

Recognized the roles played by the NGOs and agreed to plan for their participation. Problem lies when the many NGOs that came in following the disaster without prior preparation and consultation with the district management. This reflect the failure of the lack of coordination and collaboration efforts between them which should have taken place during the preparation phase. Local politics was also a contributing factor creating chaos and unorganized relief efforts. Table 1 shows the involvement of various authorities by phase of actions during 2014 flood.

TABLE 1. Focus Group Discussion (FGD) with various respondents regarding 2014 Flood

Respondent	Phase		
	Preparedness	Response	Mitigation
Local Authorities (Majlis Daerah, District Office)	<ul style="list-style-type: none"> <li>- Form Flood Management Committee involving government agencies at district level</li> <li>- District Officer as Commander Incidence/ Chairperson</li> <li>- Conduct meeting regularly</li> <li>- Transportation and staff supporting staff</li> </ul>	<ul style="list-style-type: none"> <li>- Activate Flood Operation centre (DO)</li> <li>- Organize and manage Flood Relief Centre (JKM)</li> </ul>	<ul style="list-style-type: none"> <li>- Handling applications for relief assistance (home, funding)</li> <li>- Clean up operation on public facilities, homes and etc.</li> </ul>
Uniform bodies (BOMBA, JPAM, RELA)	<ul style="list-style-type: none"> <li>- Physical and emotional preparation among staff (BOMBA)</li> <li>- Prepare and testing of equipment and logistic (BOMBA, JPAM)</li> <li>- Conduct training related to rescue (BOMBA, JPAM)</li> <li>- Conduct meetings among staff and JKKK (RELA)</li> <li>- Forming Crisis Management Team (CMT) – started 2013 (RELA)</li> <li>- Collaboration with NGOs for relief</li> </ul>	<ul style="list-style-type: none"> <li>- Followed SOP Directive 20 NSC Located at Flood Relief Centres to assist JKM (RELA, JPAM)</li> <li>- Rescuing and evacuation (BOMBA, JPAM)</li> <li>- Received order from District Officer for task/action (JPAM, BOMBA)</li> </ul>	<ul style="list-style-type: none"> <li>- Counselling and psychological session for staff (phobia) (RELA)</li> <li>- Clean up operation on public facilities, homes and etc.; Provide equipment for volunteers (BOMBA, JPAM)</li> <li>- Treatment and counselling for flood</li> </ul>

	(JPAM)	victims (JPAM)
NGOs	<ul style="list-style-type: none"> <li>- Develop flood management plan (MERCY)</li> <li>- Coordination with local authorities</li> <li>- Raise fund and goods</li> </ul>	<ul style="list-style-type: none"> <li>- Bring volunteers, goods and essentials needed by flood victims</li> <li>- Assist in flood relief centre</li> <li>- Provide transportation</li> <li>- Relief support (goods, clean up residential and public facilities)</li> <li>- Provide temporary shelter</li> <li>- Build homes</li> </ul>
Elderly	<ul style="list-style-type: none"> <li>- During flood 2014, not well prepared</li> </ul>	<ul style="list-style-type: none"> <li>- Move to safe location (flood relief centre, higher areas, family member/friend's house)</li> <li>- Back home/ stay in temporary shelter</li> </ul>

Face to Face Interview

Results from survey showed that the total number of respondents surveyed was 397 aged 60 years and above. Majority of the respondents were Malay (99.5%), female (58.7%), with primary school qualifications (58.3%), mostly married (51.9%), majority are house owners (77.6%), mostly 'kampung' house (87.7%). Majority of the respondents are living with family (67.3%), not working (42.3%), and those working with household income RM1000 and below (92.4%). The respondents' perception on health status are moderate (74.2%). Majority of the respondents have high/low blood pressures (51.6%), followed by muscle weakness/joint pains (27.5%), diabetes (23.9%), eye problem (17.9%) and heart problem (8.3%) as shown in Figure 1.

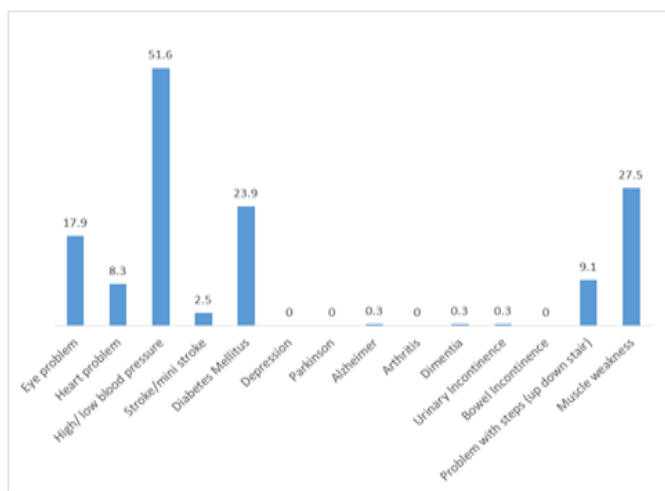


FIGURE 1. Health problems among elderly flood victims

More than 90% of the respondents surveyed had experienced flooding before. There was a good mix of respondents surveyed where 54.4% said that their areas were hit by flood for the first time and 45.6% said that this was not the first flood experienced in their area. The preparation for the disaster differ between these two groups. When asked about how do they know that flooding will occur, majority said that it is all based on their experience and observations by looking at the water levels. Majority of the respondents (80%) said that no warnings from authorities were given with regards to flooding. When asked who gave warnings about the flood

more than 64% said that it was via the electronic media; the local leaders (19.5%); government agencies (14.6%) and the NGOs (1.2%). More than 90% said that the information and warnings were of importance and effective for them to prepare for the disaster. Majority of the respondents (90.2%) had to be relocated when the flood disaster struck. Majority (53.1%) of the respondents took shelter with family and friends, in mosques and open areas while 35.8% took shelter in schools. When asked who assisted them with the relocation when the disaster struck, majority of them (50.8%) said the villagers were the first to help, followed by family members (42.4%), the safety regulatory body (2.8%) and the NGOs (0.6%). The question of who provided assistance at these temporary shelters and similar responses were given.

Figure 2 shows the issues and problems faced by the older persons during the floods in 2014. Relief assistance, basic needs, basic facilities and communication and connection were main issues and problems highlighted. According to the issues and problems related in detail, limited supply of food, water and electricity supplies and roads connection were cut off as well as delay in rescue assistance are several issues and problems mentioned by respondents (Table 2). However, respondents also said that they are facing similar issues and problems while in evacuation centers such as the lack of electricity and clean water, no special space and special assistance services for the older persons and disabled and etc. (Figure 3).

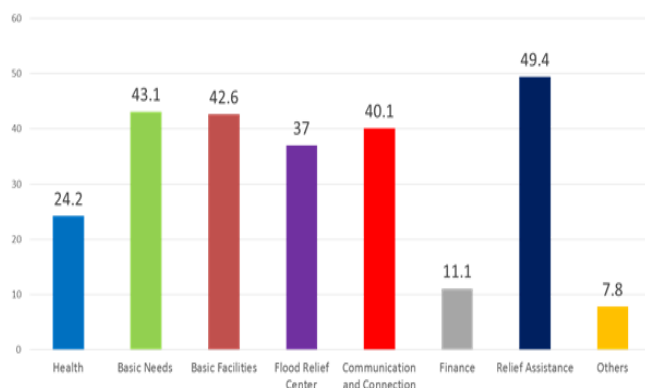


FIGURE 2. Issues and Problems Faced by Elderly During 2014 Flood

TABLE 2. Details of Issues and Problems Faced by Elderly During 2014 Flood

Health	%	Basic needs	%	Basic facilities	%	Flood Relief Center	%
Sick	20.8	Food supply	38.8	Electricity and water supply are unavailable	29.8	Too crowded	16.4
Medicine supply	2.3	Clothes supply	2.8	Electricity supply is unavailable	8.8	Not comfortable	10.1
Health support equipment's	0.5	Others	1.5	Water supply is less	4	Less number of center	6.0
Health management	0.3					Others	4.5
Others	0.3						
Communication & Connection	%	Relief Assistance	%	Finance	%		
Breakdown in road connection	25.4	Delay in Rescue Asssitance	17.9	Don't have money	6.3		
Communication lines unavailable	13.6	Lack of boats for rescue purposes	11.3	Not enough money	3.3		
Disorganized transportation system and connection	0.8	Delays in Relief Asssitance	8.8	Others	1.5		
Others	0.3	Others	11.4				

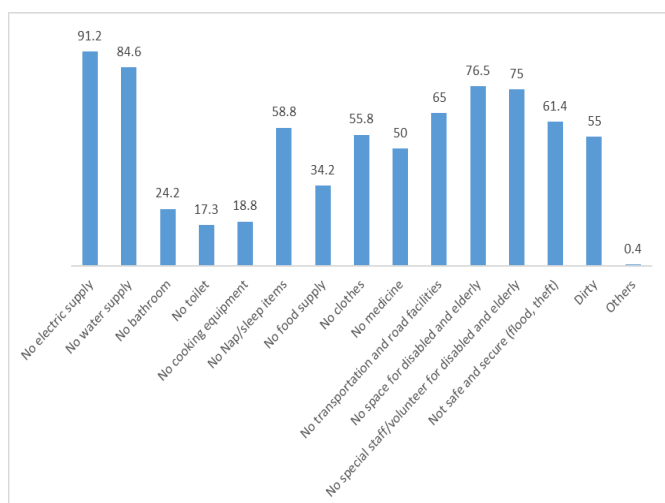


FIGURE 3. Issues and Problems Faced by Elderly at Flood Relief Center During Flood 2014

Analysis also shows that 66.2% of the respondents experienced the social and psychological traumas that afflicted them. Being sad (60.5%), depressed (15.4%), trauma (15.1%) and followed by stress (10.1%). The distress and disorientation caused by sudden changes in social status are

compounded by trauma and stress resulting from loss of home and livelihood. The material losses of the respondents were also recorded. Majority (92.7%) lost their home appliances followed by their homes (58.2%), vehicles (35.5%), plants (17.1%) and livestock (13.1%). Majority (43.8%) had a total lost in monetary terms of RM5000 and below; followed by total lost of RM 5001-RM 10,000 (23.4%); RM 20,001 and above (15.4%) followed by RM 10,001- RM15,000 (8.8%) and RM 15,001-RM 20,000 (8.6%). However, majority of the respondents (86.4%) received help and were compensated for the losses incurred. Cash were given (93.7%) as a form of compensation, new house provided (6.6%), house repaired (8.8%), vehicles repaired (0.6%), new home appliances given (18.4%) and others. All these assistance and compensation were given through the Committee either at the village, state or federal levels (61%), and 39% were given direct to the flood victims. The impacts of flood are many. The flood left an enormous impact on the lives of the community. Streets and buildings were covered with mud, dust and garbage. Kuala Krai and Kampung Manek Urai in Kelantan were considered as the most affected area. One of the easiest ways to observe these impacts are through physical losses. Physical

loses in this context are losses in terms of houses, furnitures and ownerships, damages of roads, schools, community halls, and other public facilities in the community. This is clearly shown in the chart below where respondents responded by giving all the physical and health impacts on society and the environment. Floods may also affect the social, economic, and psychosocial of the victims, including distress, anxiety, depression, and post-traumatic stress disorder as mentioned by respondents in earlier section of the Questionnaire. While physical consequences of flood are obvious and temporary, the psychosocial consequences may affect victims for a lifetime. Only those who are better able to cope with these consequences will not be exposed to the long-lasting suffering.

Therefore, there is a general consensus towards addressing the needs of the older persons in disasters. This does not necessarily mean that numerous special services should be established for older persons. The older persons clearly have special problems and there is thus the need to improve on the existing SOP with clear emphasis on the guidelines for mainstreaming the needs of the older persons in disaster situations. Opinions were sought with regards to the need of a SOP for older persons and majority (99.2%) believed that there is a need for a SOP for the older persons.

### Conclusion

This Report focusses on the lessons learned from the 2014 Kelantan flood disaster. The Research identified key observations, findings, and recommendations that have implications for preparing and responding to natural disasters in Malaysia. The role of the NGOs were more prominent during the response phase as compared to the preparation phase. Regardless of the nature of the disaster, its management must involve four phases: mitigation/prevention, preparedness, response and recovery. These phases must be well coordinated across all relevant agencies.

Based on findings, the older flood victims relied on experiences in preparing for disaster and majority had no emergency plan, had never participated in any disaster preparedness educational program, and were not aware of the availability of relevant resources. The question of how prepared were the older victims in facing the disaster pointed to the deficits in the disaster preparedness among the older victims. They did not have any basic supply of food, water or medical supplies in case an emergency situation arises. The NGOs did not prioritise any particular vulnerable groups and they targeted whoever were the most vulnerable. However, the NGOs came to a consensus that emphasis be given to the older victims and proper plans be developed in collaboration with the government agencies.

SOPs need to be kept in writing for various phases of the disaster i.e., from the activation of it to the post-disaster phase. These SOPs must be tested and drilled with all personnel involved at regular intervals. Because no one can guarantee that the record-setting flood of 2014 will not recur, disaster preparedness, response and right through the recovery phase

are without a doubt the best way forward.

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