Communication, Coordination, Logistics and the Role of Non-Governmental Organizations (NGO's) During Disaster in Malaysia

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Abstract

In times of crisis or disaster such as the recent floods of December 2014 in the northern and eastern Malaysian states of Kelantan, Terengganu, Pahang, Perak and Kedah, non-governmental organizations played a significant role in assisting the authorities and government agencies in collecting and providing aid to victims. Under normal circumstances non-governmental organizations vary in what they do and would normally focus on specific issues such as environmental issues, health issues or social issues. However in times of crisis or disaster, these organizations expand their role by assisting authorities with relief efforts ranging from financial assistance to manpower to basic necessities such as food, water, clothing and even logistical assets such as lorries, helicopters and other types of vehicles. The available literature has suggested that individuals, groups and organizations such as non-governmental organizations innovate as seen by countless relief effort activities conducted by non-governmental organizations in times of crisis or disaster in the past. The objective of this study is to examine the relationship between communication, coordination, and logistical factors toward the role of NGOs when faced with a crisis in Malaysia. The outcome of the study revealed that coordination and logistics are the main and significant factors contributing to the role of NGOs in times of crisis or disaster. With regard to communication, the findings revealed that this is a significant aspect however it does not contribute towards the role of NGOs in times of crisis. Finally, this study also found that preparation and training contributes to the successful role of NGOs in dealing with crisis or disaster situations, suggesting that more needs to be done in terms of planning, budgeting and training to prepare volunteers. The implications of this study on the surveyed respondents from various non-governmental organizations in terms of experience, requirements, support and issues are discussed.

Keywords: Role of non-governmental organizations; Crisis and disaster management; Communication factors; Coordination factors; Logistic factors.

1. Introduction

The continuing changes in global climate and weather patterns have undoubtedly resulted in natural disasters occurring more frequently in the past decade. Although flood occurrence is commonplace in Malaysia, the severe floods that hit Malaysia in the last quarter of 2014 and early 2015 was out of the ordinary and unexpected. The Malaysian National Security Council (MKN) under the Prime Minister's Department reported that as of 31 December 2014, the total number of flood evacuees stood at 180,812 evacuees primarily from the states of Kelantan, Pahang and Terengganu and some from Johor and Perak. At the peak of the floods, the total number of evacuees went as high as approximately 240,000 evacuees (Bujang *et al.*, 2008; Khan, 2014; Sani *et al.*, 2014).

As it was an unprecedented occurrence, it was clear that Malaysia was unprepared to handle and manage a natural disaster of this magnitude particularly one that is spread across 5 different states covering over approximately 104,516km^2. Even with the assistance of government agencies such as the National Security Council, the Royal Malaysia Police, the Malaysia Fire and Rescue Department, the Malaysia Civil Defence Department and the Malaysian Armed Forces, the relief efforts were still insufficient to cater to the need of almost a quarter of a million flood victims (Barber, 2011; Rahman, 2012). Malaysians known for their generosity and kindness took it upon themselves to do what they could to help and assist those affected by the floods. This prompted many non-governmental organizations (NGOs) to step forward and do what they can to help be it through financial contributions, food, clothing and basic necessities donation, logistical assistance or even volunteering to do what is needed and required. As can be seen from the flooding events that took place in December 2014 and January 2015, many NGOs took on a different role from what they were used to and showed how important they are during times of crisis. However due to the high number of NGOs that wanted to do their part in helping, it created problems as

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well because there was no proper control and management of these NGOs and no proper procedures were in place to align the efforts of the NGOs with official disaster relief efforts carried out by the respective government agencies.

Ideally, non-governmental organizations (NGOs) in Malaysia should be trained and have the required knowledge on what to do in times of crisis; however this can only be achieved if NGOs work hand in hand with the relevant government agencies that would be involved during times of crisis. This is to ensure that help and aid is given to those who need it as soon as possible and that time and resources, which are limited, are not wasted (Vestergren, 2011). It was observed that there was great support from members of the public towards relief efforts conducted by the various government agencies and NGOs as a whole. However, based on observation during the 2014 worst flood ever in Malaysia, many issues were seen to arise during this period. The first issue is the lack or almost non-existent communication between NGOs and the government agency or agencies in charge of the flood relief efforts. As there was no communication between NGOs and the relevant government agencies, getting assistance and help to those who need it were hampered by delays due to lack of coordination which in some cases resulted in aid getting sent twice to the same location or aid not even getting to its rightful destination. Mistakes resulting from poor coordination will undoubtedly lead to wastage as in times of crisis resources are limited hence wastage should be prevented as much as possible (Salmon *et al.*, 2011; Smith and Dowell, 2000).

In times of crisis logistics plays a major role, as it is the most fundamental element in getting aid to those who need it Apte (2009), Schwarzenegger and Bettenhausen (2009). It was observed during the flood crisis that there was an ongoing supply of aid from private individuals, companies and organizations; however it became an issue as to how to transport all the available aid to the affected areas. Traditional methods of transportation such as cars, vans, pickup trucks and lorries would come to mind as a method to transport aid but such mode of transportation was no match as the floods in some areas exceeded 15 feet high. This proved to be a challenge as the only immediate mode of transport for aid was by air using aircraft or helicopters, which in Malaysia are very limited in number (Phelan, 2008). Therefore, it is timely for this study to be conducted to solve these abovementioned issues. The main objective of this research is to examine the role of non-governmental organizations during times of crisis and how these NGOs can assist and contribute to relief efforts for victims.

2. Literature Review
2.1. Rusch's Disaster Theory

Crisis and disasters are completely and literally man-made as they totally depend on the knowledge, competencies and abilities of man, people, organizations or societies to cope with stress (Pollard and Hotho, 2006), i.e. to operate or work, act, think under stress or pressure (Coppola, 2011). Apparently, it also includes thinking and action to prevent, stand, lower or minimize stress. Whatever the cause or trigger of stress may be in terms of environmental damage (as in the case of an earthquake, flood, blizzard or fire) it is secondary with respect to the personal, organizational or societal experience related to that, namely the experience of a kind of disturbance of the usual or regular business way of life such as the obstruction, slow down, delay or protraction in reaching goals and provoking or creating effects; the interruption, falter, slacken, short stop or congestion; shortages of naturally available resources; the experience of failure or break down; the experience of mistakes or of things running terribly wrong, unexpected and intended; the experience of a loss of opportunity which relates to a blockade of further action or of the seemingly adequate reaction to some observed demands and the experience of impossibility of any further action and acknowledging that there are true operational limits with regard to the situation, time to act, space to move, know-how and the availability of necessary resources (Rusch, 2010).

Experience refers to the perception of self and environment such as the way a person looks at the world and how one views oneself. This also includes feeling the own body moving, realizing how it feels to think and to decide for one thing instead of another. It is important to note that experience includes memory, intuition and reason, the lessons learned and the competences, knowledge and abilities acquainted so far (Rusch, 2010).

At the level of organizations the experiences of the members mutually interfere in their respective action which become manifest or materialize in organizational structures and procedures, principles and rules, self-concepts and plans for change. In this instance the operational approach is also a kind of a relativity theory of crisis and disaster as knowledge and abilities differ from one person to the other, from organization to organization, from society to society hence it becomes obvious that crisis and disasters demonstrate some kind of cultural relativity. Therefore under this theory we are not to take crisis and disasters as external environmental incidents or events, but as the stress, the irritation and pressure which is experienced by an individual, organization or even a whole society. Crisis and disaster may therefore be identified along a line of increasing impact on cognitive, social or socio-technical systems (Rusch, 2010). If we measure this impact in terms of the capacity or ability to cope with stress we may identify different levels of that coping following the slipping line from disturbance through crisis up to disasters.

2.2. Poole's Model on Small Group Communication

According to Poole (1981) a decision making process by different groups is achieved applying different sequences. He had employed different contingency variables such as group composition, task structure and conflict management approaches to refer to decision making. This was in contrast to the usual unitary sequence models. Decision development through various stages (phases) are found irrelevant by Poole as the decision is not just made up in stages that comes one after the other, but is a cluster of various linking activities and communication. His model is a descriptive system for studying the multiple contingency variables and it consisted of 36 clusters for coding group communication and 4 cluster-sets such as proposal growth, conflict, socio-emotional interests and

expressions of uncertainty. During a group interaction, the stages cannot be predicted by the members and so Poole put forward three tracks such as task, relation and topic. He suggested that these tasks occur at any time during a group communication. Poole's model put forward several tracks for the group communication and also stated the tracks can repeat or can happen at any time of the communication process. This model consists of the various tracks used for interpreting the communication styles that a group follows such as task track, relation track, topic track and break points (Poole, 1981).

Task track: This Initial stage is the understanding period. The people inside the group will try to set the goal and will try to figure out its procedure. Like many other models, this suggests how people understand the problem and how are they going to solve it Poole (1981). For example, during conflicts and war, soldiers in a battalion or group try to set their objective under the main goal. And they all will work together to achieve the objective set by them in order to achieve the main goal. Soldiers in the group will have their own suggestions and opinions about achieving the objective which depends on their understanding of the problem.

Relation track: This track emphasizes the interpersonal relation between the group members. As human beings are social animals, the people will find time to interact and relax as friends. Any relations can be sprouted through these interactions as they tend to reveal themselves to others and these relationships are essential in working as a group (Poole, 1981). For example, even during the war soldiers will find time to relate with their fellow soldiers as a means of relaxation. This sharing will help them improve their motivation towards achieving the goal. It has to be noted that during the peak of fight soldiers will have their own means of relaxation by sharing and relating with fellow soldiers.

Topic track: There can be issues or concerns that a group might encounter and this track focuses on these issues regarding the group communication. Sometimes it may be argumentative conversation and at other times it can be a cooperative one (Poole, 1981). Considering the war field example for the same scenario, during the process of achieving the objectives there might be arguments regarding the steps involved with it or regarding any other reason based on their understanding. It can turn out to be dispute or a cooperative one.

Break points: During conversations, the group tends to shift through tracks. These points where the group shifts from one point to next are called break points (Poole, 1981). In real life conditions the thoughts and ideas comes up in no order in any of the groups. There is no pre-set order.

2.3. Follett's Principle of Coordination

Follett (1923), suggests that there are four principles of coordination in an organization. The four principles are coordination by direct contact of the responsible people concerned, coordination in the early stages, coordination as a reciprocal relation of all the features in a situation and coordination as a continuing process. According to March (1965) for the first two principles, Follett argued that control could be best maintained by those at lower levels of the organization if managers at those levels increased horizontal communications and directly attended to matters with which they were well acquainted. Her first two principles formed the basis for proposals, which would provide 'individualism in a planned society'.

Follet's third principle viewed coordination as an 'auto-governed activity' spontaneously brought about by the process of 'inter-penetration'. She argued that a central planning group could not assume the coordination function without depending upon the interactions of individual department heads. For the fourth principle, Follett calls for continuous readjustments in the process of maintaining coordination. She observed that the mistake is often made of assuming that the world stands still while a given adjustment is taking place. When a problem is considered to be 'solved' by a given process, it should be recognized that new problems have been generated by this process and a new process of solving would be necessary (Follett, 1923).

2.4. Role of Non-Governmental Organizations During Times of Disaster

In times of crisis or disaster on a large scale, it will require the involvement of the local community. This is the time that NGOs which at times may be part of the local community will play an important role in assisting authorities in providing aid and assistance to those who need them as quickly as possible. According to Rodriquez et al. (2007) the word community evokes an image of people in a certain geographical setting, socially organized via the mechanism of a local government for the good of the people who live in that place.

The fundamental assumption is that the people who live in the community share common interests, needs, or aspirations (McMahon, 2007). But there are really many more kinds of community: professional communities, linguistic communities, ethnic communities, and religious communities that may or may not be tied to certain locations but that are instead linked by interests apart from geography. Moreover, socially organized groups sharing a certain geographic setting often consist of many such communities within its boundaries (Russell, 2016) However, as Peacock and Ragsdale (1997) point out, the warm and positive connotations of community are often more wishful thinking than reality. They see community as a collection of competing interests. Their concept of a *sociopolitical ecology* holds that various groups themselves shifting continually in composition and negotiate with each other for power and resources. Given this conception, community is characterized as much by conflict as by consensus, and the outcome of this process may lower the community's overall resistance to disaster. Moreover, it may result in distributions of risk that are unequal across the various residents (Peacock and Ragsdale, 1997).

Coordination, defined as "agreed-upon relationships between independent organizations" is generally regarded as an important feature of emergency management (Gillespie, 1991). Comfort (1999), too, strongly emphasizes coordination in the development of systems adaptive to threat, characterized by such features as sense of shared risk, and "common understanding" about remedial measures. Yet the coordination, mutual understanding, and

information exchange that are necessary to respond to threat are undermined by the fractious nature of communities, and innovators may struggle for expression in such places (Comfort, 1999).

In the Peacock and Ragsdale (1997) conception of community, "communities" do not innovate; individuals, groups, and organizations innovate. These are likely to be government agencies, non-governmental organizations (NGOs), citizen groups, pressure groups, or other collectives. Hence it is appropriate to look at community innovation from an organizational perspective, because communities, fractured as they are in the sociopolitical ecology model, are conglomerates of organizations, whether acting individually or working together. Community innovation, therefore, takes place as innovation in communities (Chen *et al.*, 2008).

3. Methods

This study will use a quantitative approach, as the purpose of this study is to examine the role of NGOs during crisis or disaster and to establish whether there is a valid relationship between independent variables of communication, coordination and logistics to the dependent variable of the role of NGOs during a crisis.

The population group for this study will be non-governmental organizations based in the Klang Valley, which includes Kuala Lumpur and Selangor as a majority of NGOs are registered and based here in either Kuala Lumpur or Selangor. As there are approximately 150 active NGOs in Kuala Lumpur and Selangor combined, the sample size for the study would be targeted toward these 150 NGOs. Based on the Krejcie and Morgan (1970) recommendation, with a population (N) of 150, the required sample (S) size would be 108 NGOs; however, the sampling size will be increased by 10% to 119 NGOs in anticipation of non-response or spoilt responses (Sekaran and Bougie, 2013). The sampling technique used was probability techniques such as simple random and stratified random.

For this study, a survey questionnaire was distributed via mail and email, to collect data from NGO respondents within the Klang Valley. The survey questionnaire has three parts. Part 1 elicited respondents' demographic information such as age, gender, marital status and period working with respective NGO. Part 2 of the survey questionnaire contained questions or statements related to the dependent and independent variable of this study. It is estimated that each variable will have between 8 to 10 questions or statements. Part 3 of the questionnaire contained open-ended questions whereby respondents were asked to give their comments regarding any of the variables that they consider to be important and should be given focus. To further ensure the validity of this instrument, the survey questionnaire went through a face validity process where it will be given to volunteers from five randomly selected NGOs to pretest the questionnaire. In the event that the survey questionnaire has any issues such as ambiguity, inadequacies or biasness with regards to the questions or statements then the feedback from the pretest respondents will be valuable to ensure such issues are rectified prior to formal release of the survey questionnaire.

In order to ensure the reliability of the survey questionnaire, two methods were used. First is the coefficient alpha, which is the most commonly applied estimate of a multiple-items scale's reliability. Computing the average of all possible split-half reliabilities for a multiple-item scale does this. In short the coefficient alpha for the construct of the survey questionnaire must have a coefficient of .70 and above to be considered to have good reliability. A coefficient below .60 will show that the scale has poor reliability (Zikmund *et al.*, 2013).

In order to ensure ethical conduct for this study (Creswell, 2013), permission and access to conduct the survey questionnaire will be obtained from NGOs before the survey questionnaire is given to respondents. An explanation of the objectives and importance of the survey will also be relayed to respondents. Respondents to the study will be those who are willing to participate and will be required to sign a letter of consent. It is assumed that respondents in the study are honest and truthful with their answers and reactions. All data collected from respondents will be treated with strict confidentiality and anonymity keeping with the rules of ethics. All efforts will be carried out to ensure that there is no biasness or discrimination in the report writing by producing a generalized report. The study will also abide by the ethical conduct of research by ensuring that plagiarism does not occur.

The Statistical Package for the Social Sciences (SPSS) version 22 was used for data entry, coding and analysis. Descriptive analysis is the most basic statistical analysis. Firstly, the data were analyzed for descriptive analysis in which a transformation process of raw data into a form that describes basic characteristics such as central tendency (mean, median and mode), distribution (range, variance and standard deviation) and variability (univariate statistical analysis, bivariate statistical analysis and multivariate statistical analysis) were identified (Sekaran and Bougie, 2010; Zikmund *et al.,* 2013). Secondly, data collected were also analyzed using the Pearson Correlation coefficient. This is useful when the analysis involves two variables and there is a need to determine whether the variables are related to one another. Pearson Correlational analysis can measure the relationship of these variables. When there are more than 3 variables also known as a multivariate statistical analysis, data will be analyzed using multiple regression analysis. Multiple regression analysis is a useful tool for researchers to analyze the effects of two or more independent variables on a single, interval-scaled dependent variable simultaneously. Multiple regression provides an objective means of assessing the degree and character of relationship between independent variables and the dependent variable (Sekaran and Bougie, 2010).

4. Findings

4.1. Descriptive Analysis of Communication

The communication factors that play a role for an NGO during times of crisis or disaster have been measured by using 160 questionnaire based instruments that is consisted of a 5-scale items (questions). By utilizing this 5-scale items (questions) and its cumulative score, whereby the minimum score is 1 and the highest is 5. In this component,

ten questions were formulated requiring the respondents to answer the question on a 5-point scale summary measure of perceptions.

The findings suggest that respondents believe that it is important for an NGO to have a clear line of communication as a total of 98.1% (N=157) of respondents with a mean of 4.62 agreed with the statement and only 1.9% (N=3) disagreed with the statement. Respondents believe that there should be an intermediary person from an NGO to the relevant authorities or government agencies, as a total of 97.0% (N=155) with a mean of 4.15 who agreed with the statement while a total of 3.0% (N=5) disagreed with the statement. Respondents also believe that communication between an NGO and authorities or government agencies must be immediate as a total of 97.6% (N=156) with a mean of 4.12 agreed with the statement. Out of 160 respondents a total of 2.6% (N=4) disagreed that communication must be immediate.

The majority of respondents believe that effective communication is crucial to the relevant authorities or government agencies as a total of 98.1% (N=157) with a mean of 4.50 agreed with the statement and a total of 1.9% (N=3) disagreed. The findings also suggest that respondents believe that NGO's must have a guideline on communications during times of crisis or disaster as a total of 98.2% (N=157) with a mean of 4.43 who agreed whilst a total of 1.9% (N=3) disagreed. A significant majority totaling 96.9% (N=155) with a mean of 4.57 agreed that authorities or government agencies must disseminate information in a timely and efficient manner whilst a total of 3.2% (N=5) who disagreed.

Out of 160 respondents, a total of 97.5% (N=156) with a mean of 4.39 agree that NGOs must disseminate information to volunteers in a timely manner while a total of 2.6% (N=4) disagreed with the statement. Respondents believe that authorities or government agencies and NGOs should have the appropriate telecommunication channels such as mobile phones, walkie-talkies and satellite phones as a total of 96.9% (N=155) with a mean of 4.26 agreed with the statement whilst a total of 3.1% (N=5) disagreed.

The findings also shows that respondents believe that a format of communication must be followed at all times during crisis or disaster with a total of 96.2% (N=154) with a mean of 4.30 who agreed with the statement while a total of 3.8% (N=6) disagreed. On the final communication statement that suggests social media and radio are the best way to disseminate information, majority of respondents or 97.0% (N=155) with a mean of 4.08 agreed with the statement and it is interesting that with the boom in social media in the last decade, only 34.4% (N=55) strongly agreed with the statement as it is a reasonable assumption that there would be more respondents who would strongly agree with the statement. Nonetheless a total of 3.2% (N=5) of respondents disagreed with the statement.

Table-1. Descriptive Analysis of Communication Statements (N=160)

No.	Communication	1	2	3	4	5	Mean	SD
1.	It is important for an NGO to have a clear line of communication.	1.9	-	2.5	25.6	70.0	4.62	0.717
2.	There must be an intermediary person to the relevant authorities/government agencies.	1.9	1.3	13.8	46.3	36.9	4.15	0.841
3.	Communication between an NGO and authorities/government agencies must be immediate.	1.3	1.3	18.8	41.9	36.9	4.12	0.842
4.	Effective communication during disaster is crucial to the relevant authorities/government agencies.	1.3	0.6	5.0	33.1	60.0	4.50	0.735
5.	NGO's must have a guideline on communication during disaster.	1.9	-	8.1	33.8	56.3	4.43	0.797
6.	Authorities/government agencies must disseminate information timely and efficiently.	1.3	1.9	3.8	25.0	68.1	4.57	0.766
7.	NGO's must disseminate information to volunteers in a timely manner.	1.3	1.3	5.6	41.3	50.6	4.39	0.761
8.	Authorities/government agencies and NGO's should have the appropriate telecommunication channels such as mobile phones, walkie talkies, satellite phones etc.	2.5	0.6	10.0	41.9	45.0	4.26	0.858
9.	A format of communication must be followed at all times during disaster.	1.9	1.9	8.8	39.4	48.1	4.30	0.865
10.	Social media and radio are the best way to disseminate information.	1.9	1.3	18.8	43.8	34.4	4.08	0.865

*Notes: 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Agree, 4 = Agree, 5 = Strongly Agree, SD = Standard Deviation

4.2. Descriptive Analysis of Coordination

With regard to this component, a further eleven statements were formulated requiring the respondents to respond to the statements based on a five-point scale measure of perceptions. The findings of this study suggest that a total of 91.3% (N=146) of respondents with a mean of 3.93 agreed that in times of crisis or disaster NGOs must coordinate relief efforts whilst a total of 8.8% (N=14) disagreed. Respondents also believe that NGOs must play an

active role in getting aid to those who need it, as a total of 95.7% (N=153) of respondents with a mean of 4.13 agreed with the statement and a total of 4.4% (N=7) disagreed with it.

More than half of the respondents agreed that there must be a central coordination centre for relief efforts with 98.7% (N=158) of respondents with a mean of 4.47 who agreed with the statement against 1.3% (N=2) who disagreed. A total of 97.5% (N=156) of respondents with a mean of 4.41 believe that a coordination centre must be set up immediately when a crisis or disaster occurs while a total of 2.5% (N=4) disagreed. Respondents reacted positively and believe that authorities or government agencies and NGOs must prepare before a crisis or disaster occurs as a total of 98.8% (N=158) with a mean of 4.47 agreed with the statement as opposed to only 1.3% (N=2) who disagreed.

Out of the 160 respondents, a total of 91.9% (N=147) with a mean of 3.86 agreed that NGOs should take the lead in the event no one is taking the lead however only 8.2% (N=13) disagreed with the statement. A resounding 97.6% (N=156) of respondents with a mean of 4.42 agreed that authorities or government agencies and NGOs should be working hand in hand together as a team and interestingly a total of 2.5% (N=4) disagreed with the statement.

The findings also suggest a total of 97.4% (N=156) of respondents with a mean of 4.34 agreed and believe that training prior to a crisis or disaster is crucial for effective aid relief while at the other end of the scale 2.6% (N=4) disagreed with the statement. Almost all the respondents or 98.2% (N=157) with a mean of 4.42 agreed that a backup plan must be in place in the event of unforeseen circumstances with only 1.9% (N=3) who disagreed.

Respondents also believe that only one central coordination centre should coordinate relief efforts in times of crisis or disaster as 84.4% (N=135) with a mean of 3.74 agreed with the statement; however a total of 15.6% (N=25) disagreed with the statement. With regard to the final coordination statement that suggests an effective leader should lead the coordination center, 98.7% (N=158) with a mean of 4.49 agreed with the statement while 1.3% (N=2) of respondents disagreed.

Table-2. Descriptive Analysis of Coordination Statements (N=160)

No.	Coordination	1	2	3	4	5	Mean	SD
1.	In times of disaster NGOs must coordinate relief efforts.	1.9	6.9	15.0	48.8	27.5	3.93	0.932
2.	NGOs must play an active role in getting aid to those who need it.	1.3	3.1	11.9	49.4	34.4	4.13	0.830
3.	There must be a central coordination center for relief efforts.	1.3	-	5.0	38.1	55.6	4.47	0.709
4.	A coordination center must be set up immediately when a disaster occurs.	1.9	0.6	6.3	37.5	53.8	4.41	0.795
5.	Authorities/government agencies and NGOs must prepare before a disaster occurs.	1.3	-	8.1	31.9	58.8	4.47	0.752
6.	NGOs should take lead in the event no one is taking the lead.	1.9	6.3	23.1	41.9	26.9	3.86	0.951
7.	Authorities/government agencies and NGOs should be working hand in hand together as a team.	1.9	0.6	6.3	36.3	55.0	4.42	0.797
8.	Training prior to a disaster is crucial for effective aid relief.	1.3	1.3	7.5	41.9	48.1	4.34	0.777
9.	A back up plan must be in place in the event of unforeseen circumstances.	1.9	-	4.4	41.9	51.9	4.42	0.748
10.	Only one central coordination center should coordinate relief efforts in times of disaster.	3.1	12.5	22.5	31.3	30.6	3.74	1.119
11.	An effective leader should lead the coordination center.	1.3	-	6.3	33.1	59.4	4.49	0.727

*Notes:** 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Agree, 4 = Agree, 5 = Strongly Agree, SD = Standard Deviation

4.3. Descriptive Analysis of Logistics

The findings collected from a random group of 160 respondents suggests that a total of 88.7% (N=142) of respondents with a mean of 3.64 agreed and believe that NGOs should provide logistical assistance in times of crisis or disaster while a total of 11.3% (N=18) disagreed. Respondents believe that NGOs should inform authorities or government agencies of the type of logistics such as facilities and equipment that are available as a total of 95.0% (N=152) with a mean of 3.98 agreed with the statement; however a total of 5.0% (N=8) disagreed.

Whether the size of transportation is important in determining the allocation of logistical resources, a total of 96.3% (N=154) of respondents with a mean of 4.04 believe that it is important while a total of 3.7% (N=6) disagreed and did not believe that size is important as a determining factor. The findings also suggest that respondents believe that the location of logistical transportation must be monitored at the coordination center at all times as 97.5% (N=156) with a mean of 4.13 agreed with the statement as opposed to a total of 2.5% (N=4) who disagreed with it. When respondents were given the statement that the availability of transportation should be sent and relayed to the coordination center a total of 99.4% (N=159) with a mean of 4.23 agreed with the statement whilst 0.6% (N=1) who disagreed.

A total of 98.1% (N=157) of respondents with a mean of 4.25 believe that the number of transportation and its destination must be recorded at the coordination center while 1.9% (N=3) disagreed. The findings of this study also suggests that 95.6% (N=153) of respondents with a mean of 4.07 believe that vehicles for aid relief should be sufficient and on standby before a crisis or disaster occurs; nonetheless a total of 4.4% (N=7) of respondents disagreed with the statement. When it came to the statement that it was crucial to have qualified personnel to operate the relevant mode of transportation, 97.5% (N=156) of respondents with a mean of 4.27 agreed with the statement against a total of 2.5% (N=4) who disagreed.

Almost all the respondents or 98.7% (N=158) with a mean of 4.33 believe that geographical information is important in determining the type of logistics to be used while those who disagreed were 1.2% (N=2). On the final logistics statement that suggests the use of technology such as Global Positioning Systems (GPS) monitoring systems ensures safety and efficiency of logistics, 98.1% (N=157) of respondents with a mean of 4.18 agreed with the statement whilst those who disagreed represented only 1.9% (N=3) out of the 160 respondents.

Table-3. Descriptive Analysis of Logistics Statements (N=160)

No.	Logistics	1	2	3	4	5	Mean	SD
1.	NGO's should provide logistical assistance in times of disaster.	3.8	7.5	30.6	37.5	20.6	3.64	1.012
2.	NGOs should inform authorities/government agencies the type of logistics such as facilities and equipment that are available.	1.9	3.1	18.8	47.5	28.7	3.98	0.879
3.	The size of transportation is important in determining allocation of logistical resources.	0.6	3.1	16.9	50.6	28.7	4.04	0.800
4.	The location of logistical transportation must be monitored at the coordination centre at all times.	0.6	1.9	13.8	51.9	31.9	4.13	0.759
5.	The availability of transportation should be sent and relayed to the coordination centre.	-	0.6	13.1	49.4	36.9	4.23	0.691
6.	The number of transportation and its destination must be recorded at the coordination center.	-	1.9	9.4	50.6	38.1	4.25	0.700
7.	Vehicles for aid relief should be sufficient and on standby before a disaster occurs.	1.9	2.5	16.3	45.6	33.8	4.07	0.877
8.	Qualified personnel to operate the relevant mode of transportation are crucial.	0.6	1.9	10.6	43.8	43.1	4.27	0.775
9.	Geographical information is important in determining the type of logistics to be used.	0.6	0.6	10.0	43.1	45.6	4.33	0.732
10.	Use of technology such as GPS monitoring systems ensures safety and efficiency of logistics.	1.9	-	14.4	45.6	38.1	4.18	0.816

*Notes: 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Agree, 4 = Agree, 5 = Strongly Agree, SD = Standard Deviation

4.4. Descriptive Analysis of Role of NGO's During Disaster

It was discovered that 95.6% (N=153) of respondents with a mean of 4.13 who believe that NGO's should deliver food and water to those who need it during times of crisis or disaster whilst a total of 4.4% (N=7) disagreed with the statement. A total of 92.5% (N=148) of respondents with a mean of 3.81 believe that NGOs should provide logistical assistance to authorities or government agencies in times of crisis or disaster; however a total of 7.5% (N=12) of respondents disagreed.

A significant proportion of respondents totaling 94.9% (N=152) with a mean of 4.00 agreed and believe that NGOs should look for transportation and equipment for use in aid relief efforts during times of crisis or disaster whilst a total of 5.1% (N=8) disagreed with the premise of the statement. The majority of respondents or 93.7% (N=150) with a mean of 3.96 agreed that NGOs should assist and provide counseling to victims in times of crisis or disaster whilst a total of 6.3% (N=10) disagreed and believe that NGOs should not assist and provide counseling to victims. It was also discovered that 92.5% (N=148) of respondents with a mean of 3.87 believe that NGOs should provide medical assistance and equipment when a crisis or disaster occurs; however a total of 7.5% (N=12) disagreed.

Interestingly the study revealed that a high proportion of respondents or 96.2% (N=154) with a mean of 4.09 agreed that NGOs should look for funding than can be channeled to victims of crisis or disaster. However a total of 3.8% (N=6) of respondents disagreed. A significant proportion of respondents or 96.2% (N=154) with a mean of 4.09 agreed that NGOs should collect donations in the form of money and goods for victims of crisis or disaster while only 3.8% (N=6) of respondents disagreed with the statement. A total of 98.7% (N=158) of respondents with a mean of 4.28 agreed that NGOs should work with other NGOs in times of crisis or disaster for better aid relief delivery. Only 1.3% (N=2) disagreed with the assertion.

The study also found that 98.7% (N=158) of respondents with a mean of 4.06 believe that NGOs should provide assistance to victims and their families post crisis or disaster however only a handful of respondents or 1.3% (N=2) disagreed with the notion. Almost all of the respondents or 95.6% (N=153) with a mean of 4.12 who agreed that NGOs should collect information during a crisis or disaster for record and future planning purposes. Nonetheless a total of 4.4% (N=7) believed otherwise and disagreed. On the final statement, a total of 95.1% (N=152) of

respondents with a mean of 4.19 agreed and believe that NGOs should conduct a postmortem after every crisis or disaster relief exercise to improve future relief aid assistance whilst a total of 5.1% (N=8) disagreed with the statement.

Table-4. Descriptive Statistics for Role of NGOs during Disaster

No.	Role of NGO's During Disaster	1	2	3	4	5	Mean	SD
1.	We deliver food and water to those who need it during disaster.	3.1	1.3	13.8	43.8	38.1	4.13	0.916
2.	We provide logistical assistance to authorities/government agencies during disaster.	2.5	5.0	26.3	41.3	25.0	3.81	0.953
3.	We look for transportation and equipment for use in aid relief during disaster.	1.3	3.8	18.8	46.3	30.0	4.00	0.869
4.	We assist and provide counseling to victims in times of disaster.	1.3	5.0	16.3	51.2	26.3	3.96	0.861
5.	We provide medical assistance and equipment in times of disaster.	1.9	5.6	23.8	41.3	27.5	3.87	0.946
6.	We look for funding that can be channeled to victims of disaster.	1.9	1.9	20.0	38.1	38.1	4.09	0.907
7.	We collect donations in forms of money and goods for victims of disaster.	-	3.8	17.5	44.4	34.4	4.09	0.815
8.	We work with other NGO's during disaster for better aid relief delivery.	-	1.3	11.3	45.6	41.9	4.28	0.711
9.	We provide assistance to victims and their families post disaster.	-	1.3	21.9	46.3	30.6	4.06	0.758
10.	We collect information during disaster for record purposes and future planning.	2.5	1.9	12.5	47.5	35.6	4.12	0.879
11.	We conduct postmortem after every disaster relief exercise to improve future relief assistance.	1.3	3.8	9.4	46.3	39.4	4.19	0.848

*Notes: 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Agree, 4 = Agree, 5 = Strongly Agree, SD = Standard Deviation

4.5. The Relationship between Communication, Coordination, Logistics and Role of NGOs During Disaster

In order to understand the significant relationship between all the variables in this study, a correlation analysis was used to measure the relationship between the variables. An inferential analysis was conducted using Pearson's correlation analysis, which measures and estimates the relationship between two interval variables. This analysis was conducted to determine the relationship between communication, coordination, logistics and role of NGO's during times of crisis or disaster.

The Pearson correlation values (r) shown in the following tables will show the relationship level between communication, coordination, logistics and role of NGOs during times of crisis or disaster. If the Pearson correlation value (r) is bigger this would then suggest that there is a strong relationship between communication, coordination, logistics and role of NGOs during times of crisis or disaster. Correlation relates to effect size hence the strength of the absolute value of Pearson correlation (r) can be seen using the correlation guide by Evans (1996) as shown in Table 5.

Table-5. Pearson's Correlation (r) Strength Indication Guide

Pearson Correlation (r)	Indication of Correlation Strength
0.00 – 0.19	Very weak
0.20 – 0.39	Weak
0.40 – 0.59	Moderate
0.60 – 0.79	Strong
0.80 – 1.00	Very Strong

4.6. The Relationship Between Communication and the Role of NGOs During Disaster

It has been analyzed that there is a positive significant relationship between communication and role of NGOs during crisis or disaster. From the Pearson Correlation coefficient, it can be seen that the relationship between communication and the role of NGOs during crisis or disaster is moderate and significant where $r = 0.519$ and $p = 0.000$. The Pearson Correlation coefficient $r = 0.519$ shows that there is a linear relationship between the two variables and that the relationship in positively moderate. It also shows that there is a significant relationship between communication and role of NGOs during crisis or disaster where its significant value is 0.000. This value is smaller than the alpha value that has been setup at $p = 0.005$. Table-6 shows the result for the correlation analysis between communication and role of NGO's during times of crisis or disaster.

Table-6. Pearson's Correlation (*r*) of the relationship of communication and role of NGO's during disaster

		Role of NGO's During Disaster
Communication	Pearson Correlation	.519**
	Sig. (2-tailed)	0.000
	N	160

Note: ** = Correlation is significant at the 0.01 level (2-tailed)

4.7. The Relationship Between Coordination and the Role of NGOs During Disasters

It is found that there is a positive significant relationship between coordination and role of NGOs during crisis or disaster. From the Pearson Correlation coefficient, it can be seen that the relationship between coordination and the role of NGOs during crisis or disaster is strong and significant where r = .623 and p = 0.000. The Pearson Correlation coefficient r = 0.623 shows that there is a linear relationship between the two variables and that the relationship in positively strong. It also shows that there is a significant relationship between coordination and role of NGO's during crisis or disaster where its significant value is 0.000. This value is smaller than the alpha value that has been setup at p = 0.005. Table 7 shows the result for the correlation analysis between coordination and role of NGO's during times of crisis or disaster.

Table-7. Pearson's Correlation (*r*) of the Relationship of Coordination and Role of NGO's during Disasters

		Role of NGOs During Disaster
Coordination	Pearson Correlation	.623**
	Sig. (2-tailed)	0.000
	N	160

4.8. The Relationship Between Logistics and the Role of NGO's During Disaster

When it comes to the variable of logistics the findings indicate that there is a positive significant relationship between logistics and role of NGOs during crisis or disaster. From the Pearson Correlation coefficient, it can be seen that the relationship between logistics and the role of NGOs during crisis or disaster is strong and significant where r = .606 and p = 0.000. The Pearson Correlation coefficient r = .519 shows that there is a linear relationship between the two variables and that the relationship in positively strong. It also shows that there is a significant relationship between logistics and role of NGOs during crisis or disaster where its significant value is 0.000. This value is smaller than the alpha value that has been setup at p = 0.005. Table 8 shows the result for the correlation analysis between logistics and role of NGO's during times of crisis or disaster.

Table-8. Pearson's Correlation (*r*) of the Relationship of Logistics and Role of NGO's during Disaster

		Role of NGOs During Disaster
Logistics	Pearson Correlation	.606**
	Sig. (2-tailed)	0.000
	N	160

4.9. The Most Significant Factor Influencing the Role of NGOs During Disaster

The final objective of this research is to examine and understand the most significant factor that affects or influences the role of NGOs during times of crisis or disaster. In order to achieve this, a regression analysis was conducted using the data collected from all 160 respondents. The regression analysis produced a significant outcome with an F value of 38.435 and p value of 0.000 as can be seen in Table 9. This also confirms that there is a linear relationship between the predictor variable of communication, coordination and logistics to the role of NGO's during an uneventful crisis or disaster.

Multiple linear regression analysis was used to assess the influence of communication, coordination and logistics to the role of NGOs in managing crisis or disaster. Preliminary analyses were conducted to ensure there were no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. The multicollinearity assumptions of all the independent variables (communication = 0.519, coordination = 0.623, logistics = 0.606) are above 0.3 and not more than 0.7 which would suggest that the independent variables correlate substantially. The normality assumptions are that all residuals lie in a reasonably straight diagonal line from the bottom left to top right. This suggests that there are no major deviations from the normality assumptions.

To determine the best set of predictor variable in predicting the role of NGOs during crisis or disaster, an enter regression method was used. Based on the enter method employed, all three predictor variables i.e. communication (X_1), coordination (X_2), and logistics (X_3), were found to be of significance in explaining the role of NGOs in times of crisis or disaster.

It can be seen that the findings from Table 11 indicates that coordination makes the largest contribution in explaining the role of NGOs during crisis or disaster with its Beta coefficient value of 0.433 and p value less than 0.005 while logistics has the least contribution toward the role of NGOs during crisis or disaster with a Beta coefficient value of 0.313 and p value less than 0.005. Communication however has no contribution towards the role of NGO's during crisis or disaster as indicated by the Beta coefficient value of -0.065 and p value of more than 0.1.

Based on the findings in Table 10, it shows that the derived R squared value is 0.425. This would suggest and imply that the three predictor variables which are communication, coordination and logistics explain about 42.5% of

the variation in the role of NGOs during times of crisis or disaster. Coordination and logistics were statistically significant with the role of NGO's in which coordination showed a Beta coefficient value = 0.433 with *p* value less than 0.005 and logistics with a Beta coefficient value = 0.313 and *p* value less than 0.005 as can be seen from Table 11.

Table-9. ANOVA[a] of Communication, Coordination, and Logistics to Role of NGO's During Disaster

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	3480.094	3	1160.031	38.435	0.000[b]
Residual	4708.306	156	30.181		
Total	8188.400	159			

Note: [a.] Dependent Variable: Role Total
[b.] Predictors: (Constant), Communication, Coordination & Logistics Totals

Table-10. Model Summary[b] of Communication, Coordination and Logistics to Role of NGO's During Disaster

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the estimate
1	0.652[a]	0.425	0.414	5.49376

Note: [a] Predictors (Constant), Communication, Coordination, Logistics
[b] Dependent Variable: Role of NGO's During Disaster

Table-11. Coefficients[a] of Communication, Coordination and Logistics to Role of NGO's During Disaster

	Unstandardized	Coefficients	Standardized Coefficients		
Model	B	Std. Error	Beta	*t*	Sig.
1 (Constant)	9.848	3.369		2.923	0.004
Communication	-0.076	0.132	-0.065	-0.575	0.566
Coordination	0.491	0.147	0.433	3.347	0.001
Logistics	0.368	0.116	0.313	3.169	0.002

Note: [a] Dependant Variable – Role of NGO's During Disaster

5. Conclusion

The premise of NGOs is to assist and help those who are in need of help, assistance and guidance and this has led to the formation of many NGOs in Malaysia over the years. NGOs vary in their purpose as some deal with social issues such as the Al-Khalifah Foundation that deals with marginalized target groups such as the indigenous community, orphans and the poor and needy, some deal with humanitarian issues such as MERCY Malaysia, some deal with environmental issues such as the Malaysian Nature Society (MNS) and some deal with health issues such as the National Cancer Society of Malaysia (NCSM).

In times of crisis or disaster such NGOs are commonly seen to be actively involved in providing assistance in whatever capacity they are able to offer hence it is timely that policy makers, government agencies, private organizations, NGOs, volunteers and the general public understand what can be done to constantly enhance the efficiency, effectiveness and quality of assistance being provided to disaster victims.

This study has managed to contribute to several different aspects. First and foremost it adds to the existing literature in understanding what factors are significant and the contribution of such factors to the role of NGOs in times of crisis in the overall scheme of disaster management not only in Malaysia but globally. Since crisis situations or disasters such as natural disasters are probable, the importance of NGOs in assisting authorities or government agencies should not be taken for granted. Secondly it is hoped that this study will assist future researchers in developing better studies that will lead to more comprehensive findings on the role of NGOs during times of crisis. The third contribution is in addressing the role NGOs can play in disaster management in Malaysia considering that Malaysia is prone to natural disasters such as flooding, landslides and most recently earthquakes which can be seen from the earthquake and aftershocks that shook Sabah in June 2015.

With continuing changes in weather patterns and environmental impacts, it is likely that more disasters may occur in the next several decades. The fourth contribution of the study would be to help and assist policy makers such as state and federal government and also government agencies such as Fire and Rescue Department Malaysia, Royal Malaysia Police, Malaysia Civil Defence Department, Malaysia Armed Forces, Malaysia Security Council and the newly formed National Disaster Management Agency (NADMA) of Malaysia that has been tasked with handling disaster management and relief efforts for future disasters. It is hoped that the findings of this research will emphasize the importance of NGOs in disaster management in Malaysia and how to come up with better policies, practices and guidelines so that NGOs can play a better role during times of disaster in assisting government agencies more efficiently. Findings of this study also suggest that key factors such as communication, coordination and logistics between government agencies and NGOs can be further improved for future disaster relief efforts. Such improvements will ultimately benefit victims, those providing rescue and relief efforts and minimize wastage of valuable resources such as human, equipment and financial resources.

The fifth contribution of this study is to help and assist NGOs themselves to better understand their roles and how best to assist government agencies in rescue and relief efforts so that NGOs will be able to come up with enhanced and improved recruitment, training and awareness programs. This will lead to better execution of future relief efforts so that valuable resources within the NGO itself and those given or donated to the NGO are not wasted

but delivered to victims in the shortest possible time. The sixth and final contribution of this study is for volunteers of NGOs. Findings based on open ended questions of the questionnaire survey revealed that some NGOs do not provide a reasonable level of training while others do not provide any to volunteers. As a result many volunteers are left on their own to decide what they should do until told to do so by an officer of the NGO. This leads to inefficiency as volunteers may end up doing a particular task the wrong way; for example volunteers of an NGO at a relief center in Kuala Lumpur were told to pack food and water into plastic bags for victims. However they were not informed how much food and water was to be put into the bags. When an NGO officer finally came to check, some plastic bags that had too much and others had too little. Volunteers then had to repack the bags after being told the exact amount of food and water required, thus wasting time and energy.

In summary the findings from this study have not only contributed to the body of literature on the relationship between communication, coordination and logistics and the role of NGOs in times of crisis but also provides pertinent information to policy makers such as state and federal government, government agencies, NGO, permanent staff of NGOs and volunteers on the subject matter.

There are several implications of this study to the role of NGOs during times of crisis or disaster. The first implication is related to the government and it agencies. As seen from the floods that hit Malaysia in December 2014, due to lack of communication, coordination efforts between government agencies and NGOs was profoundly lacking leading to issues such as excess supply of clothes not required, relief aid not arriving at its destination, affected areas getting aid twice while others none at all and volunteers not knowing where to go and what to do. The second implication is for NGOs. Based on the questionnaire survey data, many respondents noted that many NGOs lack proper guidelines, procedures and information for volunteers and even officers to refer to when having to deal with disaster relief aid. This coupled with zero or minimum training given by NGOs in disaster management to its officers and volunteers have resulted in reduced productivity and efficiency in times of crisis as some volunteers and officers struggle to understand what needs to be done and logistical mismanagement occurring.

The third implication of this study relates to the government and media transparency. In times of crisis or disaster, information flow is important but events in the past such as the MH 370 incident in 2014 have shown how chaotic it can be when information was not forthcoming from government agencies and related parties. Multiple sources of information during press conferences in times of crisis may lead to credibility and transparency issues. Credibility of government and media was questioned as inaccurate information was being given to the media, which then reported it to the general public. This led to condemnation by victims' families towards government agencies and those involved with search and rescue efforts; all of which could have been avoided with a proper information flow system in place.

Given the implications, several recommendations are proposed. Firstly the federal government, respective state governments and government agencies particularly Malaysia National Security Council that is responsible for disaster management in Malaysia and the newly formed National Disaster Management Agency of Malaysia should interact more with NGOs to build a stronger relationship by conducting disaster management workshops, forums and training sessions. This would enable all parties concerned to understand each other's' needs and expectations so that proper planning and financial budgeting can be made by the government in coordination with NGOs. By engaging NGOs, a communication link between government agencies and NGOs will be established thus leading to better coordination of relief efforts when the need arises. This would also allow the government to arrive at a better framework, financial assistance and policies for inclusion of NGOs as a vital link for disaster management in Malaysia. NGOs themselves should also take the initiative to approach government agencies for assistance and guidance to bridge the communication gap between them.

Secondly, it is recommended that NGOs themselves evaluate and provide better training to their officers and volunteers in disaster management so that issues such as duplication of work and inefficient use of resources can be avoided at all costs. Lack of training among volunteers and officers of an NGO is likely to lead to coordination and logistical issues such as volunteers not knowing what to do, relief aid improperly packed and logistical assets not sent to the right destination, to name a few.

The third recommendation is for NGOs to have proper guidelines and information regarding relief efforts and disaster management and to provide them to all volunteers and officers through the use of mobile technology and social media such as Facebook, Instagram and Twitter apart from traditional methods such as handouts, brochures and notices. Awareness campaigns should also be conducted to explain to potential volunteers the type of assistance and commitment required so that potential volunteers can decide what role they can effectively perform in times of crisis. Some individuals are better at laborious physical work while others are better at managing hence it is important for an NGO to recruit the right volunteers with the right set of skills for more effective and efficient operations and assistance.

The final recommendation is for the government to set up a central national disaster information center so that all parties involved can follow the information flow regarding any disaster closely and accurately. This will also avoid issues of inaccurate news reporting which can confuse government agencies, NGOs, volunteers, victims and the general public. Inaccurate news reporting can be costly to relief efforts as it involves human lives and the risk of relief aid financial costs escalating needlessly.

In any scholarly research or study there will undoubtedly be limitations to the research or study conducted. It can be seen that the main focus of this study is to validate the role of NGO's during times of crisis or disaster in Malaysia particularly in the Klang Valley area by verifying the three chosen factors or variables contributing to it, namely, communication, coordination and logistics. Apart from validating the relationship of the three chosen

factors, this study also endeavors to understand the most significant factor that contributes to the role of NGO's in times of crisis.

The first limitation of this study is that the findings are generalized to the selected group of random respondents from Klang Valley who works for NGOs in various positions ranging from volunteers to chairman or chief executive officers. The findings were not broken down into demographic subgroups such as age, gender, qualification, position in NGO and location of NGO which could possibly be significant in moderating the relationship between the factors mentioned above to the role of NGO's in times of crisis. It is recommended that future research should be expanded to include demographic subgroups and to study if the chosen demographic subgroup or subgroups will affect the relationship differently.

The research tool or questionnaire itself can be seen as the second limitation of this study. Questionnaires are usually given to willing respondents who are mostly pressed for time; hence it is not feasible to design a questionnaire that may take too long for respondents to fill in. Thus only a limited number of questions or statements can be included in the questionnaire. As the number of questions or statements for inclusion is limited, responses to questions not asked could have affected the outcome of the study. It is recommended that questionnaires in future include all pertinent statements or questions but in the shortest form possible.

Thirdly, because of cost and time constraints, this study was carried out using a cross sectional approach and this in itself can be seen as a limitation. A cross sectional study refers to data collected at a single point in time or "taking a snapshot of the current situation". The occurrence of recency bias is a limitation for such a data collection method. This relates to a situation whereby respondents will provide feedback based on their current or most recent experiences. As a result, respondents' most recent positive or negative experiences that they can recall could impair the quality of data collected, as it may not represent a true reflection of their general experience. In order to achieve a better understanding, it is recommended that a follow-up cross sectional research be conducted for comparison. Conducting longitudinal studies where the same respondents are questioned at different points in time is also recommended for future research. This would enable correct determination of the causal relationship (Zikmund *et al.,* 2013).

Finally, the findings from this study were gathered from a small sample of 160 randomly selected respondents working for NGOs in and around the Klang Valley area. As shown by the demographic findings, a majority of them are female qualified at degree level; hence at a macro level the findings this study should not be generalized to other areas or cities in Malaysia. Cultural, economic and social differences between other cities in Malaysia, for example townships in Kelantan compared to townships in Penang, would be different and thus may have a moderating effect on this studied area.

In summary, the limitations mentioned suggests that future research should be expanded to subgroup or subgroups of demographics, the use of questionnaire as a tool should be more comprehensive but still remain brief, sample groups of respondents should be expanded to different townships or cities in Malaysia and longitudinal studies are needed if given the resources. These recommendations or suggestions would provide future researchers with broader, deeper and conclusive understanding on the role of NGOs during times of crisis in Malaysia for years to come.

Acknowledgement

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