SURVIVING FAMILIES AFTER DISASTER IN SOUTHEAST ASIA: AN UNDERSTANDING FROM THE SOCIOLOGICAL PERSPECTIVE

Waruesporn Natrujirote*

Abstract

This article aims to understand the circumstance of victims of a natural disaster within families from the sociological perspective, using the 2004 Tsunami in Southeast Asia as a basis for this analysis. The development approach simply lays out the discussion into the survival, adjustment, and adaptation phases and each phase applies the theory of economic sociology. In the survival phase, economic sociology explains the social cause and effect of an economic phenomenon; that a lack of financial security nets and a lack of income may increase the vulnerability of families where the breadwinner is lost and traditional gender roles are challenged.

In the adjustment phase, the money-related drive of employment results from cultural norms that survivors hold. Beliefs consistent with gender-related cultural norms affect the behavior of employers who hire and workers who select jobs. In adaptation phase, economic actors in concrete social networks or social capital strive to recover their financial stability.

Keywords: single-parent families, disaster, Southeast Asia

INTRODUCTION

On December 26th, 2004, one of the deadliest tsunamis in history tapped onto the shores of Southeast Asia as a result of the largest gest earthquake in four decades. The killing wave, generated by a 9.15 scale earthquake under the Indian Ocean near the west coast of the Indonesian island of Sumatra,

struck Indonesia, Sri Lanka, India, and Thailand and left nations bordering the Indian Ocean with disastrous consequences (Bilham 2005, 1126-1127; Park, et al. 2005,1139; Kanamori 2006, 1927). The devastating tsunami killed more than 250,000 people in a single day and left more than 1.7 million homeless. Natural disasters have left many people suffering from a lack of sanitation,

^{*}Asst. Prof. Dr. Waruesporn Natrujirote obtains a Ph.D. in Sociology from University of Kentucky (USA), M.P.A. in Public Administration from Kentucky State University (USA), and B.A. in Humanities from Kasetsart University (Thailand). Currently, she is working as a lecturer in the Department of Social Sciences, Faculty of Social Science and Humanities, Mahidol University, Thailand.

infrastructure, housing, and family. The victims of a disaster may experience many traumas that affect the rest of their lives, s such as a fear of dying, exposure to dead bodies, loss of loved ones, community disruption, a loss of security and protection, and economic hardship. However, they must continue to fight to survive and restore their fractured lives back to a state of normalcy.

According to a longitudinal populationbased survey data (Frankenberg, et al. 2008, 1671), collected in the areas heavily damaged by the tsunami in the Indian Ocean which included Indonesia, Sri Lanka, and Thailand, about 10 percent of children age under 15 who survived the tsunami lost a parent, and 10 percent of survivors who were married at the time of the tsunami lost their spouse. Women in the 2004 Tsunami appeared to have been killed in the disaster in greater numbers than men (Save the Children 2008). One of the reasons that increased women's vulnerability of being swept away by the wave was their traditional domestic role that confined them to the house when the tsunami came. Many women died while trying to save their children and other family members (MacDonald 2005, 474). In a strongly Islamic society, as in Aceh, Indonesia, women wear more restrictive clothing than men and are less likely to know how to swim (Neumayer and Plumper 2007, 551). Such physiological attributes of males and females show that sex-differences in vulnerability are considerable because women, following caretaker norms, must also evacuate with small children. (Yeh 2010, 29). A high mortality rate of mothers, due to their increased vulnerability, has left a high number of motherless children in tsunami-affected regions (Masmas, et al. 2004, 99; MacDonald 2005, 474). Lower family income and higher poverty

rates became major difficulties for many families; especially the families who lost their breadwinners (Amato 2000, 1269).

A natural disaster can be seen as an anomalous event that disrupts regions, lives, and organizations. It is an event in which a community undergoes severe such losses to persons and/or property that the resources available within the community are severely taxed (Drabek 2004, 4). This academic article aims to understand the condition of victims of natural disaster within families from the sociological perspective that explains the relation between human groups and vulnerabilities exposed by the disaster. A compilation of data used in this article was collected from secondary sources of the surviving families from The 2004 Tsunami in Southeast Asia. Those victims are limited to those affected families in Indonesia, Sri Lanka, and Thailand who were the worst hit from the tsunami in2004. The organization of this article employs the 'Development Approach', which divides the changes within family in coping with crisis into three phases, which are survival, adjustment, and adaptation. Incidences in each phase will be illustrated using economic sociology that explains social causality of the different economic phenomena.

DEVELOPMENT APPROACH

The development approach in studying individuals and families over time began in the 1930s and was widely used in the 1950s (Boss, et al.1993,3). The term development refers to the changes that occur over an individual's lifetime. The development approach focuses on the systematic changes experienced by families as they move through life. These changes are the result of an Surviving Families after Disaster in Southeast Asia: An Understanding from the Sociological Perspective

interaction between nature and nurture. The three major aspects of a person's development include cognitive, which is mental abilities, social development, and personal development. Development starts from needs and needs lead to motivation as Abraham Maslow described in his theory; "Hierarchy of Needs" (Islam 2012, 2-5). Maslow's Hierarchy of Needs model described how five different levels of needs, including physiological, safety, social, esteem, and selfactualization motivate people for their development. It is depicted as a pyramid consisting of five levels: the lowest level is associated with physiological needs, while the uppermost level is associated with selfactualization needs. Deficiency needs must be met first. The higher needs in this hierarchy only come into focus when the lower needs in the pyramid are met. Maslow's Hierarchy of Needs states that we must satisfy each need in turn, starting with the first, which deals with the most obvious needs for survival itself (Islam 2012, 2-5).

Applying the development approach in family issues, particularly families after disaster, is useful as an explanation of how families form, grow, and ultimately dissolve. Thus, it explains the shifting roles of family members after a disaster as their lives progress Changes in the situation of individual family members create a need for family change and families adapt through the new roles (Aldous 1996, 77). Whereas, changes in the external environment affect the situation of individual family members and create a need for change and family adaptation. Though, families decide themselves how they are going to adapt as long as they can manage to protect their boundaries (Hultaker 1983, 13-15). Developmental changes of families after a

disaster are the result of an external situation interacting with internal family processes, which lead the families to go through three stages. The following sections will discuss how families from the tsunami dealt with their lives after they experienced a loss in their family. Their experiences will be discussed in three phases, which are survival, adjustment, and adaptation.

Phases of Survival in Crisis

1. Survival

Disaster critically affected survivors when there was a loss of loved ones in the family. A loss of a family member changed the structure of the family and "formed" a new type of family, which appeared to challenge the whole family to survive the phenomenon. It is apparent that family structure was first transformed after a loss of family members; thus, the assumed traditional gender roles are challenged. Economic sociology explains the social cause and effect of the economic phenomenon that a lack of financial security nets and a lack of income may increase the vulnerability of many families in the regions (DiMaggio 1994, 24). Women and men who were left as single-parents with responsibility for caring for their children and some extended family alone became a common situation after the tsunami. The loss of those primary caregivers in the disaster can leave surviving children and families helpless The transformation of traditional gender roles, such as the increase of women's workload, may be challenging, particularly in Asian culture where there is a concrete division of labor in family. While men who have not previously been primary caregivers may struggle with practical, social and psychological strains.

Hence, single-fathers and single-mothers may encounter different difficulties in adjusting to the new roles as caregivers and breadwinners.

Financial status of the family is one of the first impacts after a loss of a partner. Some parents have to leave their social networks, which is a crucial source of psychological support, to enter the labor force or increase their working hours to support their little ones without their partners. The balance of work and family duties are considered to be rough for many parents, who must work overtime shifts to compensate for the loss of their partner's salary while taking time away from their children and other domestic chores (MacDonald 2005, 474). The rise in mental health problems inevitably develops for families when they are faced with a lowered income and when they must care for more children.

Many single-fathers who were the breadwinner needed support in finding alternative employment as well as training in order to accommodate their family responsibilities. Simultaneously, the disaster caused changes in economic flows which included unproductiveness in agriculture, livestock, fisheries, and industry and trade, leading to higher production costs, lower revenues in the provision of essential services, and unexpected expenditures from the relocation of human settlements. Similarly, single-mothers were confronted with different challenges due to a loss of a partner, such as interrupted work careers and fewer financial resources (Clarke-Steward and Brentano 2006, 32-33). The surviving women who had never been primary breadwinners had difficulty shifting their domestic routines to gain access to financial resources, and faced practical, social, and psychological struggles.

2. Adjustment

Vast numbers of children lost their parents and their extended families in the disaster. Victims who lost their loved ones in the disaster would have to find a way to adjust their lives to "grow" without their partner. Economic loss was a major impact that families had to cope with as a result of the devastating disaster. Indonesia and Sri Lanka appear to the worst hit countries in terms of job losses. According to Bharathi (2005), around 600,000 people in the most affected regions in Indonesia, particularly Aceh province and the island of Nias and over 400,000 workers in the affected provinces in Sri Lanka, lost their job in fishing, plantation agriculture and unregistered small businesses. It resulted in in the country's total number of unemployment rates increasing by 55%. In Thailand, the majority of job losses have occurred in the hotel and tourism industry, which is a vital segment of the economy, especially in Phuket, PhangNga, and Krabi, which were the areas worst hit by the tsunami. The damage caused a substantial drop-off in tourism visits, because of a loss of facilities for tourism and a loss of trust in previously safe areas. A more subtle impact that the tsunami had was also on the livelihood of the tourismdependent community. Hotels, restaurants and souvenir shops that closed have left 5,000 unemployed in the aftermaths the tsunami in Thailand; whereas, hotel owners, tour operators in the Andaman and Nicobar Islands had only 5% of their regular business after the tsunami (Netter2005, 2-6). The inter-island sales of souvenir goods and export-import of goods between the Indian mainland dropped because of the decline in tourist arrivals (Maxwell and Clay 2005).

Cultural norms, beliefs consistent with gender-related cultural norms affect behavior of employers who hire and workers who select jobs. Culture and social norms are also important determinants of economic behavior (DiMaggio 1994, 27; Zelizer 2002,101). Culture is defined as ideas derived from the social environment, society, or subgroup, which may be conscious or subconscious. They may take the form of values, beliefs about the world, or strategies of action that are taken for granted. Anthropologists and sociologists see these as important determinants of economic behavior (DiMaggio 1994, 27; Zelizer 2002, 101). In cultures where the 2004 tsunami 2004 occurred, employers who believe that home and child-care oriented job should belong to women would fear that the men would disparage this work. Those who assume that men are better at outdoor jobs would prefer to hire men for those jobs.

Economic sociology can further explain that such beliefs would undoubtedly affect attitudes about job values and may lead to some degrees of inequality of wages and compensations. Women in the areas affected by the 2004 tsunami were more likely to face obstacles in gaining access to financial resources, because female-dominated businesses, such as small-scale cottage industries and fish processing, were not addressed with the same attention that was being given to male-dominated areas. Obstacles of gaining access to employment may limit opportunity for women to recover their family from economic deprivation (Sorenson 1994,173). Cultural norms about the appropriate sex for jobs affect gender-role attitudes and occupational aspirations, which strongly provide segregation in terms of money-related drive of employment.

3. Adaptation

The central cultural role has been jeopardized in the families wherethe mother and the father had to perform contradictory responsibilities that they had never experienced when their partners were alive. To move on with their lives, families would have to "adapt" to live in the new condition. According to the Maslow's theory, the adaptation of lives after a disaster was a basis of development. The 'economic development' of the lives of the victims should firstly be met, starting from meeting the first level of physiological needs. To fulfill those needs, families who survived the disaster need employment to guarantee the needs of food, drink, shelter, clothing, etc. Economic development will also assure that families meet the next level of the need of safety, such as health protection and financial security, which can be called 'social development'. Social issues also come into play in this level when people are aware of their human and social rights and health protection.

Economic sociology explains gender differentiation and inequality not only in paid employment and the household activities as illustrated in the previous section, but also in terms of networks and institutions. In the adaptation phase, economic actors in concrete social networks or social capital strive to recover their financial stability. Network relations indicate the information individuals have and the norms they follow, in which one's network position and connections are related to one's economic behavior (Granovetter 2002, 35; Powell and Smith-Doerr 1996, 369). Law and justice as state institutions determine one's network position which have a causal effect on economic outcomes. Gender difference causes inequality in accessing

resources, especially in some regions where legal are demanding. For example, women in Sri Lanka experienced some legal obstacles in gaining access to financial and material assistance, property and compensation (Kanamori 2006, 1932). Women who survived as widows encountered resistance in accessing their passed husbands' land and assets, because documentations, land title, property and compensation were eligible following the death of their husbands (MacDonald 2005, 475). Correspondingly, women struggled with accessing benefits, such as cash payments and supplies, because families were regularly registered for government and insurance purposes in the man's name. Widowed women could lose their payments because those benefits were registered in their husband's name (Oxfam 2005).

Disaster can disrupt functioning societies and have a disturbing impact on social relations, which may increase vulnerability of the most vulnerable groups of individuals, for example, children, women, and the elderly. In the adaptation phase of development, according to Maslow's hierarchy of needs, after physiological and security needs are fulfilled, humans often seek to fill the third and fourth layer of human needs, which are social and esteem to meet the 'institutional development'. Humans need to feel a sense of belonging, acceptance and recognition. However, femaleheaded households who had to deal with their own psychosocial distress, loss of livelihood and the care of their dependents as well as men who must care for all members lacked time and opportunity to join in different groups like cultural and religious groups, professional organizations, sports teams etc. to fulfill such social and esteem needs. Rather, singleparents are experienced additional stress on their mental health. The surviving men who lost their wives were in crisis as they struggled to cope with a life without a job and raise children without their wives (Oxfam 2005). Many turned to substance abuse while attempting to deal with their lives, the loss of family members, and the collapse of their family and community. The additional expense of purchasing intoxicating substances was not only a financial drain, but could also lead to a possibility of increasing domestic and sexual violence within the home and community.

Disaster Resilience

Building resilience to disaster, particularly to those single-parent victims, requires a paradigm shift that includes the necessary approaches of survival. Firstly, it is vital to understand that it is the loss of resource that is theorized to create hardship after disruptions, not the disruptions themselves. Families experience stress whenever resources are diminished and, therefore, possibly inadequate to resolve any impending demands. In the context of disaster, resources are depleted when individuals lose their family, house, loved ones, and belongings, leading to experiencing actual stress. The resource loss enables the relationship between stressful events and poor mental health or relational outcomes. High, continuous levels of stress can produce burnout, which is a sense of emotional exhaustion.

Hobfoll's (1989) Conservation of Resources theory states that individuals accumulate resources to accommodate, survive, or overcome threats. Those resources may include personal resources, such as selfesteem and optimism; material resources, such

as money; condition resources, such as status; and social support. When individuals encounter stressful or traumatic events that consume these resources, their sensitivity to consequent stressors is enhanced. Hobfoll (1989) proposes that when resources are at risk, or in danger, people attempt in various ways to protect the resources they possess. Thus, changes in resources, rather than the levels of resources, are likely to create hardship in individuals. Damages, occurred during or immediately after the disaster, include total or partial destruction of assets such as buildings, infrastructure, stocks, natural resources, etc. Losses occur when there are changes in economic flows, followed by a higher production costs and lower revenues in the provision of essential services, and unexpected expenditures such as humanitarian assistance, demolition and debris removal.

In most cases, the national economic level consequences are unlikely to be severe or long-lasting. In the case of India, for example, the impact is estimated at 0.07% of GDP. The figure will be somewhat different in other countries, but the costs will be balanced by the boost to economic growth associated with relief and reconstruction activity. This is evidenced from the absence of any visible impact on the currencies or stock markets of India, Indonesia and Thailand (Maxwell and Clay, 2005). Likewise, the natural disasters rarely have a large impact on GNP or notably reduce growth. This evidence advocates that the economic division of the countries affected from disaster can be recovered and the livelihood of families can be improved.

Each impact sector should consider establishing a specific plan for economic recovery The impact sectors contribute to the social sector (e.g. housing, health, education,

cultural and religion), the infrastructure sector (e.g. transport, communications, energy, water and sanitation, immigration works), the productive sector (e.g. agriculture and livestock, fisheries, industry and trade), and the cross-sectoral divisions(e.g. environment governance and administration bank and finance). Moreover, economic disruption at the national level, caused by the impact of relief expenditure on national finances, may be inevitable, leading to inflation and higher interest rates if public expenditure runs out of control. The Minister of Finance and the Governor of the Central Bank are the two major associations that are most important in managing a natural disaster. The scale of the tsunami disaster might overthrow the emergency funds in the national budget. This suggests countries should cut other expenditures or risk running a budget deficit with predictable consequences.

Secondly, disaster created new types of vulnerability and new vulnerable groups e.g. a large number of orphans, widows and widowers, physical disabilities and elderly people who suddenly lose family and their vital sources of psychosocial support. A crisis contributes to a magnitude of hidden problems that might emerge afterwards. Explicitly, psychological health and the livelihoods of people were dramatically affected. Many of them will need help if they are to cope with the new dilemmas and challenges that have been imposed on them. All countries were primarily concerned with the capacity of people to heal themselves, as well as help each other during the tough time. The health relief effort in the affected areas was aided by the free will of families, friends, and others; as well as local authorities and international groups.

Child and adult survivors of the tsunami, especially those who lost their family members have encountered psychiatric disability that may be serious and long lasting (Becker 2007,148). Nevertheless, mental health aspects of relief and recovery have been often disregarded in disaster initiatives (Norris, Friedman and Watson 2002, 240), as it was assumed that the basic needs such as food, shelter, medical care, and sanitation must be initially met. Different types and severity of psychosocial problems caused by the tsunami also appear as disorders.

In Thailand, health authorities have reported a significant increase in the number of prescription drugs and counseling as well as other treatments for psychological problems since the tsunami In Indonesia, there has been a 15-20% increase in the out-patient load of people suffering from anxiety and depression. There have also been reports of families, both children and adults, who lost their loved ones in the wave, suffering from insomnia, nightmares, disturbing thoughts and images of the tidal wave, profound grief, loss of appetite and social withdrawal. These symptoms might present people with a threat to their health. Hence, it suggests that unless reactions taken on these issues are well-managed, , surviving families will become victims of feelings of hopelessness suffer from feeling unwanted, leading to serious risk and to highly dysfunctional conditions for individuals, their families, and the communities they live in. It is a growing situation that calls for sensitive deliberation and attention.

Hence, the analysis suggests that psychosocial care that provides a broad range of community-based interventions to promote psychological rehabilitation of survivors and community cohesion needs to be developed in order to meet the mental health needs of large populations of adult and child disaster survivors. It should also support counseling programs for children and their families. A network of trained social workers should provide individual counseling to identify children with problems, or refer children elsewhere for individual counseling and followup sessions. Moreover, play therapy and recreational activities should be considered to help children recover from the effects of the tsunami and from losing their parents and family. Activities such as sports and games could help children to recover more quickly Workers need to be trained to conduct different recreation-based programs and work closely with the local health authorities. Play could be exceptionally effective in helping these children in single-parent families recover from the shock and turmoil of the disaster, and resume a sense of normality.

Finally, a majority of child victims of the tsunami were placed in children's homes, not only because of the loss of the parents itself, but also because of a loss in capacity to care for the children after the crisis. Save the Children (2008) reports that there has been an increase in establishing new children's homes after the 2004 tsunami in Aceh. This trend implies that a loss of earnings, employment, and housing are a major issue in post-tsunami affected areas and forced families to separate as a result of the impact of the disaster on the capacity to care for children.

Although orphanages, as a last resort, may haves enough room to welcome children who lost one or both of their parents, insufficient funds may lead to inadequate food and unhealthy diet. The tsunami disaster experience has suggested that training programs to assist victims and infrastructure for providing capacity for psychosocial care should be a fundamental part of all immediate and longterm public health relief and reconstruction programs. However, the setting up of orphanages should be the last option for children affected by the tsunami; rather, priority must be given to reuniting families or informal care systems that exist in the community e.g. relatives or neighbors.

In sum, natural disaster, more or less, impacts everyone, so some people therefore suffer more than others as a result The extent of their vulnerability depends on who they are, where they are at the time and their preexisting health conditions. Natural disasters may worsen any previous psychosocial problems that people had as well as make themapt to develop new ones. Social destruction is one of the core issues that is of primary concern in any effort to guard populations in coastal regions in the future. The challenges put on local governments and communities involve changing community settlement patterns and maintaining the communities' livelihoods, as well as enhancing disaster preparedness. Many dwellers in the affected regions might be living in a state of uncertainty, concerned about when they would be able to return to their regular routines, their employment, and their community. In addition, hesitation to return to their normal community pattern was prevalent, due to uncertainty about whether it was safe to return to the shore and whether the rumors of another tsunami were feasible. Governments \should make assurances regarding disaster relief aid to lessen the level of uncertainty aboutsuch complicated issues. Thus, immediate treatment at the time of disaster, and easy access to

treatment and care for everyone can lessen the devastation on tsunami-affected families.

REFERENCES

- Aldous, J. (1996). Family careers rethinking the developmental perspective.CA: SAGE.
- Amato, P. R. (2000). The consequences of divorce for adults and children. *Journal* of Marriage and Families, 62(4),1269-1287.
- Becker, S. M. (2007). Psychosocial care for adult and child survivors of the tsunami disaster in India. *Journal of Child and Adolescent Psychiatric Nursing*, 20(3), 148-155.
- Bharathi, D. (2005). The Indian Ocean tsunami and aftermath. *ASIAN Women Workers Newsletter*, 24(1), S.3-8.
- Bilham, R. (2005). A flying start and then a slow slip. *Science*, 308(5725), 1126–1127.
- Boss, P.(1993). Sourcebook of family theories and methods: A contextual approach. New York: Springer Science & Business Media.
- Clarke-Stewart, A. & Brentano, C. (2006). *Divorce: causes and consequences*. New Haven, CONN: Yale University Press.
- Davidson, J. R. T., Connor, K. M., and Lee, L. C. (2005). Beliefs in karma and reincarnation among survivors of violent trauma: A community survey. Social Psychiatry and Psychiatric Epidemiology, 40(2), 120-125.
- DiMaggio, P. (1994). *The handbook of economic sociology*. London: SAGE.
- dos Santos França, R., Marietto, M. G. B., Steinberger, M. B., and Omar, N. (2012). Simulating collective behavior in natural

disaster situations: Amulti-agent approach. INTECH Open http://cdn.intechopen .com/pdfs-wm/30720.pdf. (Accessed April, 2014)

- Drabek, T. (2004). Social dimensions of disaster: Instructor guide.2nd ed. Emmitsburg, MD: Emergency Management Institute, Federal Emergency Management Agency.
- Frankenberg, E.et al. (2008). Mental health in Sumatra after the tsunami. *American Journal of Public Health*, 98(9), 1671-1677.
- Granovetter, M. (2002). A theoretical agenda for economic sociology. In M. Guillen, R.
 Collins, P. England, and M. Meyer, eds.
 In *The new economic sociology: developments in an emerging field*.
 New York: Russell SAGE Foundation.
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3),513-524.
- Hultaker, O. (1983). Family and disasters. International Journal of Mass Emergencies and Disasters, 1(1),7-18.
- Islam, M. (2012). Family development approach-A new paradigm in development http://dipshikha.org/documents/ Family_Developmant_Approach.pdf (Accessed January 20, 2013)
- Kanamori, H. (2006). Lessons from the 2004 Sumatra-Andaman earthquake. *Philosophical Transactions of the Royal Society A*, 364(1845),1927-1945.
- MacDonald, R. (2005). How women were affected by the tsunami: a perspective from Oxfam. *PLoS Medicine*, 2(6), 474-475.
- Masmas, T. N., et al. (2004). Survival among motherless children in rural and urban

areas in Guinea-Bissau. *ActaPaediatrica*, 93(1),99-105.

- Maxwell, S. &Clay, E. (2005). The Asian tsunami: economic impacts and implications for aid and aid architecture. Overseas Development Institute, http:// www.odi.org/sites/odi.org.uk/files/odiassets/publications-opinion-files/712.pdf (Accessed January 20, 2014)
- Netter, T. (2005). Responding to the tsunami: The ILO's role International Labour Office. World of Work, http:// www.ilo.org/wcmsp5/groups/public/ @dgreports/@dcomm /documents/ publication/dwcms_080602 .pdf.(accessed February, 2014)
- Neumayer, E. &Plumper, T. (2007). The gendered nature of natural disasters: the impact of catastrophic events on the gender gap in life expectancy, 1981-2002.*Annals of the Association of American Geographers*, 97(3),551-566.
- Norris, F. H., Friedman, M. J., &and Watson, P. J. (2002). 60,000 Disaster victims speak: Part II. Summary and implications of the disaster mental health research. *Psychiatry*, 65(3), 240–260.
- Oxfam. (2005).Rebuilding lives after the tsunami through the eyes of children. Save the Children http://www.savethechildren .org/atf/cf/%7B9def2ebe-10ae-432c-9bd0-df91d2eba74a%7D/tsunami_ lowres.pdf.(Accessed April, 2014)
- Park, J., et al. (2005). Earth's free oscillations excited by the 26 December 2004 Sumatra-Andaman earthquake. *Science*, 308(5725), 1139-1144.
- Powell, W. W.&Laurel Smith-Doerr.(1996). Networks and economic life.In N. J. Smelser and R. Swedberg, eds. *The*

handbook of economic sociology. New York: Russell SAGE.

- Save the Children. 2008. Indonesian 'orphans' on the increase as tsunami pushes parents into poverty and children into institutions. http://reliefweb.int/sites/reliefweb.int/files/ resources/A33B5EE2179FE21FC 1257230004FC11A-sc-idn-27nov.pdf. (Accessed April, 2014).
- Smelser, N. J. (1963). *Theory of collective behavior*. Free Press.
- Sorensen, A. (1994). Women's economic risk and the economic position of single mothers. *European Sociological Review*, 10(2),173-188.
- Turner, R. (1967). Type of solidarity in the reconstituting of groups. *Pacific Sociological Review*, 10(2),60-68.
- Yeh, H. (2010). Gender and age factors in tsunami casualties. *Natural Hazards Review*, 11(1),29-34.
- Zelizer, V. A.(2002). Enter culture. In M. Guillen, et al., eds. In*The new economic* sociology: developments in an emerging field. New York: Russell SAGE Foundation.