

**Family Transformation after Natural Disasters
(Case Study: Survived Women after Bam Earthquake in 2003)**

Masoumeh Kamaledini¹

Ph.D. Student of Sociology, Department of Sociology, Science and Research Branch, Islamic Azad University, Tehran, Iran

Mostafa Azkia²

Professor of Sociology, Department of Sociology, Science and Research Branch, Islamic Azad University, Tehran, Iran

Bagher Saroukhani

Professor of Sociology, Department of Sociology, Science and Research Branch, Islamic Azad University, Tehran, Iran

Received 5 April 2018

Revised 11 June 2018

Accepted 24 June 2018

Abstract: *This current article focuses on "relation between human groups and natural disasters. Although natural disasters have caused considerable damages to the human world, but there is not enough research about the family in disasters. Family sociologists believe that changes in population, technology, modernity, politics, and mass media are effect on transforming structures, relationships, and behaviors of family and disasters have not been considered as a changing factor. Family's transformation in natural disaster is a new topic family relation of family and natural disasters is a challenging subject, because there are obvious differences between this phenomena, and researcher use different conceptual frameworks to explain these. The aim of this research is to answer the following questions: how disasters affect the family? What changes? What strategies and action chosen to cope with these changes? What are impacts of chosen strategies in family life of women? Qualitative methodology of grounded theory is used in the current study .The sampling was purposive and theoretically among the survived women of earthquake who had experienced life after the earthquake in Bam and our technique of data collection was a deep and episodic interview we conducted with 27 Participants and after the data saturation, data's were analyzed and the findings were discussed. Bam earthquake effect directly and indirectly on Bam families such as :houses demolition, death of family members, loss of income , unemployment, changes in roles and dimensions family, using drug, increasing disagreements and aggressive behaviors in men, reducing sexual ability and increasing the psychological problems.*

Keywords: *Family, Transformation family, Disaster, Earthquake, Grounded theory.*

Introduction

Theoretical background

Social studies of disaster is a new topic that has been given developed more importance in developed countries. The first empirical research is relate of the end First World War Samuel Prince was Ph.D. student of social psychology, he searched about the relation between ship explosion and social changes in the "Halifax" and he put forward interesting hypotheses on the mental status of people, but the first theoretical work had published by American sociologist Pitrim Sorokin in 1942"man and Society In calamity". Beginning in 1993, Disaster Research Center started the studies on disasters and sociology researches that has been accelerating in developed countries.

In Iran, social disaster began with Rudbar's earthquake in 1990, Jaleh Shaditalab started first scientific work about social consequences of the Rudbar's earthquake. She analyzed the socio-economic and the role of people's participation consequences after disaster, ultimately, she has presented a variety of

¹ Email: mkamalledini@gmail.com

² Email: Mostafa_azkia@yahoo.com (Corresponding Author)

solutions to managers of crisis .the silence of science in sociology disaster started from Rudbar to Bam. “Earthquake of Bam was an opportunity to confront death through the redefinition of power structures and social decision-making in the area of city safety” (Khatam, 2011: 22).

- Shaditalab (1994) had written the note describing the types of family after Roudbar earthquake in "Crisis Management, Kamaledini (2018) presented "An Review of family status after natural disasters" at the National Conference on Earthquake and Risk Management.
- Quarantelli (1960) wrote for the first time an article titled " A Note on the Protective Function of the Family in Disasters " , later Drabek and Booges (1968) After the Metropolitan Denver flood with survey method concluded that families received more than their relative's alert warnings to affect the official authorities and the social class, most of the evidence It says that the interaction between relatives at times of danger increases the chances of choosing their home as spots Cohan and Cowl (2002) studied the changes in natural disasters caused by natural disasters in the Carolina Region families.
- Xiaovi et al (2013) studied Poor People in China and found a high prevalence of family dysfunction in bereaved individuals 18 months after the Wenchuan earthquake. Strategies can be designed to facilitate post-disaster recovery, particularly for the bereaved at high risk for family dysfunction.
- Godwin et al (2013) investigated the relation between social class and family changes in 7 families recovering from Hurricane Katrina in a qualitative investigation situated in a paradigm, themes emerging as significant in the process of familial recovery included relationship to community, interpersonal Relationships, constructions of class, and growing and changing.

Definition of Concepts

- Disaster is defined differently, some researchers mentioned disaster as a ‘collective stress situation while others identified it with ‘social crisis period disasters’ (Nasreen, 2004).
- Transformation is change or alter in form, appearance, or nature, sometimes researcher use the verb *metamorphose* to describe a total transformation, like an egg into a bird or a seed into a tomato plant. When someone or something changes in appearance, they also metamorphose, the way a messy kid does when he tucks in his shirt and combs his hair (Saroukhani, 1992)
- The origins of the word *metamorphose* lie in the Greek *Meta*, or “change” and *Morphe*, form.
- Metamorphosis as a biological process is generally attributed to a subset of animals: most famously insects and amphibians, but some fish and many marine invertebrates as well (Bishop, 2006).
- In natural science, the definition of Christos de Giorgio is closer to our concept “the basic shape, form, and structure of an organism (whether animal, plant, or fungus) emerges as a result of a sequence of developmental adjustments. Each of these is usually irreversible within its morphogenetic sequence, although often reversible by some gross disturbance” (Bishop, 2006: 658).
- The family transformation in natural disasters has used for the first time by the expressed participant's concepts in this study , means the notion of attention to the dynamics of family and its changes in natural disasters, in other definitions, states: the family is a social institution and a set of cultural norms that are socially constructed, divided and transmitted, and make the pattern of relationship between the members family group and norms for family behavior Is: “choosing a spouse, housing selection, the exchange of property and services between the couple, control of sex relationship, care of children and their social training”(Behnam, 2005: 16).

Research Methodology

A grounded theory qualitative approach using content analysis was applied for the study, Birks and Birks pointed: three positions to use the theory of the field as indicators: First, when there is little information about the field under study, Second, the creation of a theory with the power of explanation of the phenomenon consideration of the researcher; and third, there is a process in the research proposal and the subject of study, explain the views and behavioral meanings of individuals, Understanding the

world of people from their view (Birks and Mills 2015). Grounded theory is a very suitable way to access direct narrations and firsthand experiences of social groups after disasters, in addition, by obtaining data base we can obtain basic and intimate data about small groups moreover, this method help to focus on context and more exploration to confirm the information , On the other hand, according to the questions of this research and the study of the social consequences of disaster, the method of qualitative research has been the most appropriate method of research in this regard. Some disaster researchers also believe that current research methods may not respond to social research in this field (Killan 1956).

Affected and lived in the destroyed region's women of Bam were approached for interviews and we were used a purposeful sampling method for selecting participants. Native people, health center's bam and the Hamrahan NGO helped the researchers to prepare a list of widows women's Bam, the list included addresses and contact information. A total of 27 participants (11 low- class and ,16 middle-class) were selected according to the area, education, jobs all participants were in the age range of 32-66 years ,primary educational levels (34%) to diploma degree (30%)to bachelor degree (19%)to master and Ph.D. degree (15%) and employed(65%) and unemployed (34%) and married (69%) be single (15%) widow (15%) ,the number of participants was determined based on the data saturation principles. The data were collected through in-depth unstructured interviews, the first we asked each woman, tell me about earthquake experiences? Data saturation was reached after 26 interviews they were purposefully sampled and with all these women a deep interview were which conducted from 40 to 60 minutes and each interview was analyzed immediately ,next step is started ,data analysis and coding in three steps: open coding , axial coding , selective coding.

First, the interviews were read several times and to typed conducted interviews were coded line-to-line, after finding the major cods and sub-categories the similar codes were categorized together , after that, the codes were compared according to the differences and similarities and sorted into two categories for two groups women . The number of concepts constructed at this stage is 929 concepts for women in low- class, 1675 concepts for women in middle-classes and a total of 2604 concepts for both groups, conformability was obtained by conducting interviews focus group with a number of native experts, who provided psychosocial and social services.

The finally based on *Strauss and Corbin of paradigm model* (1997) described the conditions (causal and intervening), context, and strategies of action and consequences of the central phenomenon (Strauss & Corbin 1997:133).

Research Site

The Bam is located between *Sistan and Kerman* in Southeast Iran and *Jade-Abraham* this had the more beautiful garden-home and is well-known to the historical citadel of *Arg-e-Bam* which was about 2000 years old and destroyed in massive earthquake on 26th December 2003.“The Bam earthquake of 26/12/2003 (Mw6.5) demolished the city of Bam in the southeast of Iran the earthquake happened at 5:26 am local time when most of the inhabitants were slept, that can be one of the causes of the great life losses”(Zare, 2004: 2). According to the statistics of Iran's Statistical Center in 2004, the total population of the city of Bam is 22,710, and the proportion of sex in urban areas was 107 and in rural areas 99 and 91% Bam's locations were destroyed and 25,514 people were killed (11913 females and 10478 males), 9447 were injured, 525 were missing and 3374 were absent temporarily (Statistics Center, 2005).

Research Findings

According to the conceptual and semantic analysis of the data obtained in this study, the phenomenon of "Metamorphosis of family" was discover and we found that after the Bam earthquake, the transformation of families has appear in several ways. One of these changes in the construction of the family was the change in the power and role of women, which was obtained from the contributions of the participants in this study, for example, in the data coding the following, concepts were derived from the following:

Changing women decision-making in marriage

This change made a choice in the pattern of marriage some of these women in the first months despite they were mourned and grieved. Forced or hurried marriage for economic, social or psychological reasons, on the recommendation of their parents or relatives and the wedding ceremony took place in tents.

- ES: My in-law sister was married 20 days after earthquake her oldest sister dead but her mother said she must marry to her cousin Between 2003 to 2004, no any official statistics were available in Bam register office, so the data were obtained from 2005 to 2016, and we found the rate of marriage and divorce has risen since 2005 (table 1).

Table (1): Marriage and Divorce Rate in Bam and Iran, Years 2005 to 2016

National rate		Bam		Year
Divorce	Marriage	Divorce	Marriage	
84241	787818	-	3395	2005
94040	778023	-	2519	2006
99852	841107	-	2463	2007
110510	881592	-	2339	2008
125747	890208	167	2288	2009
137200	891627	339	2087	2010
142841	874792	180	1393	2011
150324	829968	438	2205	2012
155369	774513	385	1991	2013
163569	724324	487	1779	2014
163765	685352	447	1557	2015
181049	704716	526	1564	2016

According these, we founded that changes have occurred in patterns of marriage, so was seed the return of traditional marriage patterns without satisfaction girls in Bam.

Changing in women's roles

Performing traditional task such as: keeping children, and family and they must perform other roles like: receive relief supplies such as: blankets, canned food, containers, loans...etc.

Changes in the sexual behavior of couples

All women said that they didn't sex to their husbands until they received the conex , and some women considered it was a Taboo in disaster.

- SKH: our marital relationship was stopped, because my husband was mournful because his father and mother and sister were dead.
- TN: "Marital Relationship ...Maybe Two Months later..."
- NB: "We had no relationship, we didn't think about it. It was Taboo but One year later, we had a sex when we went to conex"
- GI: "I had no sexual relationship with my husband for eight months.

Change in family size

One of these changes was compulsory forced collective living among survivors, although families seem to become extended, but this life has not followed the extended family, it was compulsory collective life. Absence of shelter or fear being caused the family members to collapse, however they had kept the structure of their nuclear family, and most of these families lived under a tent or by sharing some tents together , because they had panic aggregate.

Collective life can be summed up in two types:" summands "or family groups and" congregations" population groupings family they are trying to gather some of the duties and equipment of family life.

Although collective life was one of the ways to increase the mental and physical safety in Bam, but on the other hand, this was created a feeling of weakness due to the lack of privacy.

T: "we had to live with my family brother in one tent for 1 month, it was a difficult situation. Our food and sleep location was in common, i and my husband were annoyed but we had to".

SH: "I hate tent, I often slept in common with women and men 's family , my aunt was near me, but I was alone among them".

On the other hand, the size of the family is reduced after earthquake, in the some families 1 to 100 person dead, in step, we used paradigm model (figure 1).

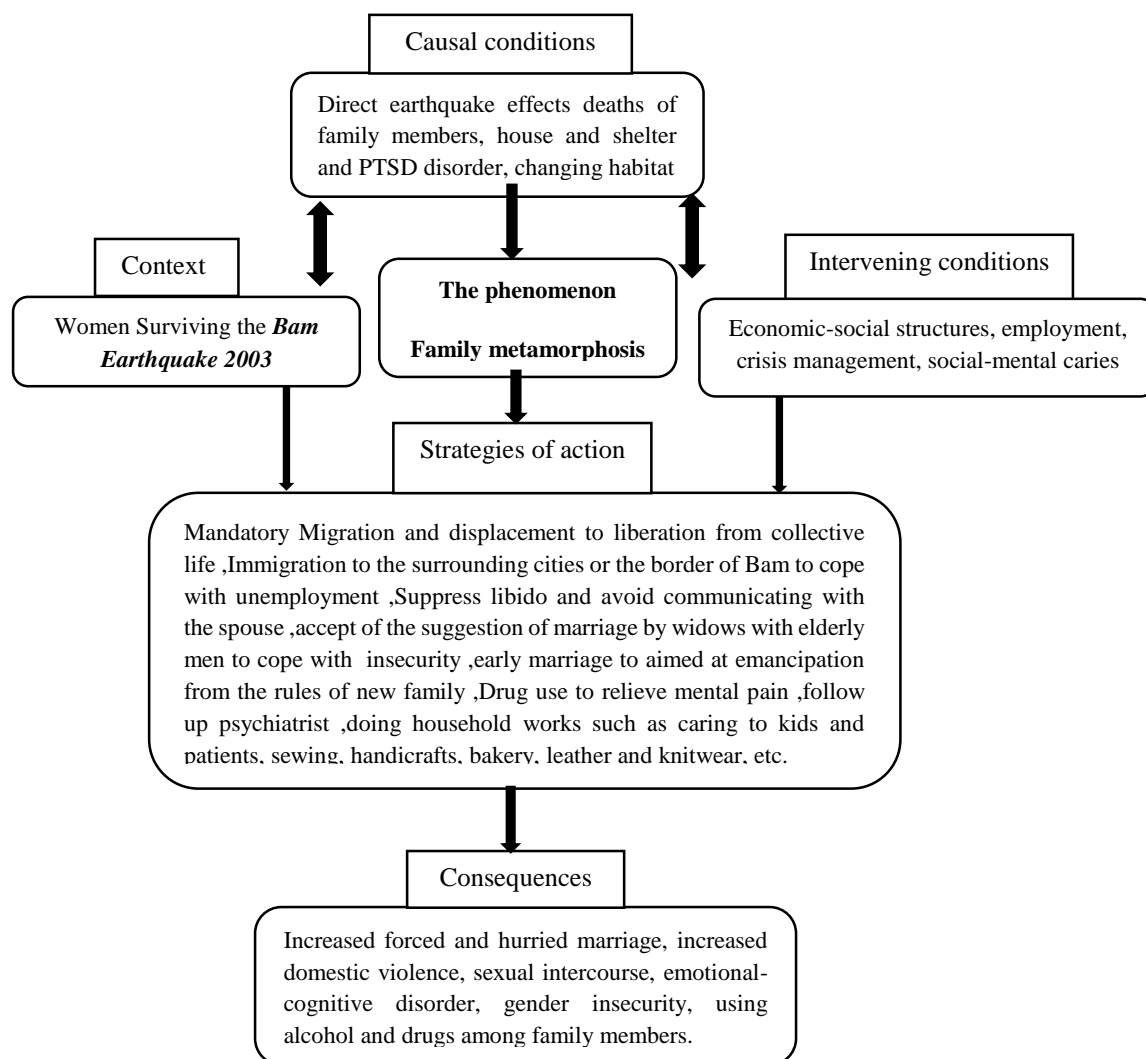


Figure (1): Strauss and Corbin paradigm model of family metamorphosis

Casual Conditions for metamorphosis of family

In this study, the researcher found that the immediate effects of earthquakes were effected causal conditions to transformation of family. Including: Deaths of family members, losing house and disorder PTSD, forced to move from house and lived in tents. Some women said the families sent their daughters to other cities near their relatives in other cities, Change in habitant. Number of women said that after the catastrophe, due to the region's insecurity, they went to relatives and acquaintances' homes.

In addition to the insecurity, losing income due to unemployment, or the loss of employed person the per capita income decreased so men of family had to leave the family to find a new job, for this reason women had to manage the family and they were feeling alone.

Some damaged families left homes and were forced to live in camps because of insecurity, fear, and distancing the population.

- SKH: "our home area was where all the neighbors were dead, so we were afraid and we went to campus, we had to leave to our home, everything had been ruined, camps had a good security."

Intervening conditions

The structural and social reasons for this phenomenon after the Bam earthquake was that the usual support structures in the community for families disappeared because of after the catastrophe of the supervisory and management structures of the community also suffered a severe damage.

On the other hand, the weaknesses the crisis management had caused many families to suffered from many problems, the most important issue for manager of crisis, the distribution of canned food, tents, and unplanned aid for them, in comparison with the social, psychological caress and economic support of families. The unemployment was another issue that affected to families for some families, this had a significant impact on routines roles of traditionally assigned to men and women. Loss of job in turn had reduced family income and increased the economic and social vulnerability of families.

The Masculinity myth is also one of the intervening conditions in changing the roles of men and women in natural disasters.

Strategies of action

women had taken a separate strategy to each family transformation and they had experienced outcome's in families positive and negative impact ,such as : mandatory migration and displacement immigration to the surrounding cities to liberation from collective life or cope with unemployment , suppress libido and avoid communicating with the spouse ,accept of the suggestion of marriage by widows with elderly men to cope with insecurity ,early marriage to aimed at emancipation from the rules of new family ,drug use to relieve mental pain ,follow up psychiatrist ,doing household works such as caring to kids and patients, sewing, handicrafts, bakery, leather and knitwear, etc.

Consequences

Migration and displacement strategies of action in women's lives have had important effects including: increasing stress and anxiety and worrying about living conditions in others home, living in relative's homes in other cities that led to the phenomenon of cognitive-emotional harm. Even two of these women attempted suicide because of the sadness and loss of family members, home, the intolerance of living conditions in others homes, and some returned to the city and continued to live in the same difficult conditions.

Sometimes the hasty marriage causes early separation due to social unhealthy of men including: drug abuse by husband, domestic violence, lack of satisfaction in emotional and sexual needs.

Doing household tasks and have job affected in increased self-esteem , happiness feeling reduced psychological harms .and decrease of social problems such as suicidal thoughts or abuse drug, but sometimes these had affected to the neglect of physical health's women.

- MB: "we gone to Kerman, the men back to Bam, we must were care about patients, children and all family , moreover we should washed dishes and clothes in cold, for 27 people ,this double tasks had tedious"
- NB " I cooked foods , washed the dishes ,cared of children and my husband .on the other hand ,my sister harmed was broken and her kid was dead so she lived with us and i would tended she. Later that I started cooking breads to sales.my body shakes still, but I had not time for myself"
- Z K: My heart was broken, the pain of my waist and legs had increased, I had thrown from the window, but I never followed up. I thought need to manage the family, I had to care in my father, and I did not things for myself.

The acceptance of forced and hasty marriages had also led to a lack of proper inquiry about the suitor, while some of this men were addicted, unemployed and harsh so women experienced the domestic violence, drug use or marital infidelity.

- ZA: after earthquake, my brother did not let me single stayed, I did not like my husband. my brother beat me , I finally got married two months later ,My husband is addicted and beat me and getting my money.
- ZT: I was alone with 2 kids for 1 year and a half, I met my husband. He was married but insisted, said I will divorcing, so I accepted it .I was tired .he was kind in the first days, but later he said he don't accept your child's so I divorced him while I was pregnant”.

And other consequences of family transformation following: emotional-cognitive disorder, gender insecurity, using alcohol and drugs among family members.

Discussion

Based on the results of the study, we have discovered transformation in Bam families after disasters the family are constitutes the basic infrastructure of human societies after disasters. Transformation family is a usual cycle of metamorphosis (Figure 2) and begins from death and loss and continues until the stage of social recovery (new birth) then the healthy families prepare for the next natural hazards.

The strategies are In the middle of this cycle (Figure 2) to cope with transformation and the state of mental health, economic class, social capital of women affect family rehabilitation and family structures such as roles, power of decision, communication patterns. on the other hand in the absence of care psychosocial-social support, weakness of crisis management have a delayed in recovery phase can be made and may lead to substance abuse, thought and suicide in women ,because of the excite mental and forced strategies without logical perception will affect the consequences of family metamorphosis.

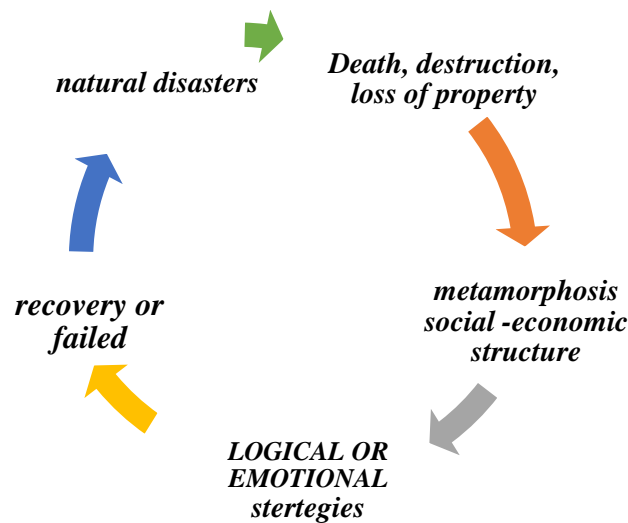


Figure (2): The cycle metamorphosis of family

References

1. Behnam,j.(2004) Tahavolat khanevade .Tehran: Mahi.
2. Bishop, C., [ed]. (2006) .What is metamorphosis .Integrative and Comparative Biology, 46(6), pp. 655–661.
3. Birks, M., Birks, H. (2015) .Grounded theory: practical guide .Los Angeles: Calif sage|.
4. Cohan, cl. Cole, SW. (2002).Life course transitions and natural disaster: marriage, birth, and divorce following Hurricane Hugo. Journal Family Psychosocial, 16(1), pp.14-25.
5. Drabek, T.E., & Boggs, K.S. (1968).Families in disaster: Reactions and relatives. Journal of Marriage and the Family, 30(3), pp.443-451.
6. Godwin, E., [ed]. (2013). Hurricane Katrina Families: Social Class and the Family in Trauma Recovery .The Family Counseling and Therapy for Couples and Families, 21(1), pp.15-27.
7. killan ,L.(1956). An introduction to methodological problems of field studies in disasters for the committee on disaster. Washington D.C: studies national academy of sciences.
8. Khatam, A. (2010) .City and earthquake .Tehran: Agah.
9. Kamaledini, M. (2017).An overview of the family situation after natural disasters. Paper presented at the national conference on earthquake and risk management, Tehran, Iran.
10. Nasreen, M. (2004) .Exploring Sociological Approach to Disaster in Bangladesh. E-Journal of Sociology, 1(2). <https://www.semanticscholar.org/paper/Disaster-Research-A-Exploring-Sociological-Approach-Nasreen/.pdf>
11. Quarantelli, E.L. (1960). A note on the protective function of the family in disasters. Marriage and Family Living, 22(3), pp. 263-264.
12. Prince, H.S. (1920) .Catastrophe and social change. London: P.S King.
13. Shaditalab,J.(1993).Crisis Management: Post-Quake Disaster Planning. Olum- e Ejtemai, 2(3), pp. 125-151.
14. Strauss, A., Corbin. J. (1997). Grounded theory in practice. California: sage.
15. Saroukhani, B. (1370). A Contribution to the Encyclopedia of Social Sciences. Tehran: Keyhan.
16. Statistics Center. (1382).Selected statistical data of Bam city.
17. Sorokin, A. P. (2010) .Man and society in calamity. New York:E P Dutton.
18. Xiaovi,C.,[ed].(2013).Family Functioning and Its Predictors among Disaster Bereaved Individuals in China: Eighteen Months after the Wenchuan earthquake .Plos one, 8(4),pp.1-8.
19. Zare , M.,& Hamzeloo, M.(2004).Bam earthquake of 26 December 2003 mw6.5:study on the strong ground motions, Journal of Seismology and Earthquake Engineering, 5(4),pp. 1-6.