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Migration after Natural Disasters, Case Study:" The 2003 Bam Earthquake."

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Abstract

After Bam Earthquake in 2003, people migration took place in two ways some migrated to cities around and some also came to the city that most of them changed into permanent residents. This caused problems and difficulties in reconstruction and recovery phases in the city after the disaster.

Experiences show that, migration after disasters for finding job and better economic conditions in developing countries lead to some problems in basic services, for host societies. In developed countries like, the Italy Earthquake in 2009, migration occurred for cultural reasons and economic policies of government. A number of issues such as Social correlation, government policies in recovery and reconstruction, economic condition of society before and after the disasters were analyzed with literature review.

Research findings show that migration of Bam was impressed by lack of consideration to economic rehabilitation, traumatic phenomenon after the disaster, social and identity subject, reconstruction methods and physical problems. The feeling of non-identity and foreignness to city among its residents led to migrate some and only poor groups stay in Bam. In reconstruction phase, strange workers found jobs in the city and settled there. Some of villagers around Bam also migrated to use facilities after the disaster that social, cultural-economic, physical and population subjects are the results.

Key words: Bam, migration, earthquake, reconstruction, recovery

1.Introduction

It seems that after each big natural disaster such as earthquake, aftermath consequences can be as sever and great as the earthquake itself. These aftermath consequences can be classified as

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direct and indirect results. The direct ones can be seen as physical destruction after the named events. Population displacements from affected areas to outside and from outside towards them which can be seen as migration, would be classified as indirect results of natural disasters.

There are no global statistics on migratory movements prompted by natural disasters. At best, there are estimates and indications that can be derived from displacement data relating to particular crisis or other data on general trends (IOM, 2009). Migration has always been one of the ways in which people have chosen to adapt to changing environments (IOM, 2009).

But although migration rate following natural disasters is increasing and its effects became more destructive during recent decades, it seems that systematic attempts to reduce such effects by considering social science and conducting researches are fare from sufficiency. It also seems that government and local authorities' policies can reduce negative results.

This paper attempt to examine migration and people displacements followed the 2003 Earthquake in Bam, analyzing further developments and chains of effects. To do so, initial data on the events followed the earthquake were analyzed according to relevant theoretical frameworks and international experiences.

2. Data and Material

After the 2003 Earthquake in Bam, people displacement as a big migration happened when survivors gradually found that remaining in their places without water and suitable shelter was too difficult to be bearable. At the recovery and reconstruction periods, some social as well as economic and psychological reasons were forcing some other survivors to leave the city to some more comfortable places. Even national and international helps could not change situations to be bearable for them.

On the other side, some outsiders were moving to Bam seeking job opportunities and share from the helps donated to the earthquake survivors. Significantly, labors with lower skills, especially at construction sector were coming to Bam in order to find job opportunities. High demand for labor of skills related to the reconstruction activities was attracting workers with lower skills to claim jobs with sufficient earnings. Additionally, some villagers form around Bam came at early to participate at the rescue operations or to help their relatives at the first weeks followed the earthquake, and then settled there. Many claimed being survivors of Bam in order to gain a share of the national and international helps. This was significant because a long drought season attacked the rural areas around Bam for many years, which caused rural people to become poorer than before. So, many of poor villagers immigrated to Bam claiming residency to benefit from the reconstruction program. Later, many people of Bam who lost their spouses because of the earthquake, decided to marry people from nearby villages. These events ended in dramatic increase of the population of the town exceeding it population prior to the earthquake disaster, even it was reported that more than 34000 people died because of the earthquake. Now, most migrants turned to be permanent residents, which affected the native culture of the old Bam, increasing social disorders and chaos. These events were affecting the reconstruction program of Bam in a negative way which ended in lasting longer time and significant delay to aftermath recovery.

a- Theoretical Works and International Experiences:

According to theoretical frameworks resulted from international works on immigrations followed disasters, indicate the following points:

- Both 'natural disaster' and 'migration/displacement' are terms used to describe a wide range of environmental and social processes (IOM, 2009).
- vulnerability of place is negatively related to net migration–in other words, more socially vulnerable places will have incurred greater population loss (IOM, 2009) and,
- Out-migration following natural disaster is a rational response for certain groups (IOM, 2009).

Researchers show that out-migration after disaster can put impacts on the affected city that can remain for a long time. Influence can be affecting an affected city in its depth and include all its life aspects. This indicates that to study the aftermath migration, one has to consider many factors and study many relevant indicators and variables.

It is crucial to obtain data on the key characteristics of migrants and non-migrants at both the individual and household levels in the same locations. At the individual level, this includes age, sex, educational attainment, marital status, economic activity/employment, and motives for migration (and for not migrating). At the household level, it includes household size and composition, education of the household head and other members (beyond the person in question), household assets/wealth and income, employment or other income generating activities of all members, previous out-migration of household members (which create household migration networks), and the location of the house relative to transportation networks and sources of employment, such as urban areas. Finally, it includes information on remittances received, and their use by receiving households (IOM, 2009).

Younger people were more likely to leave the area. So in affected areas young skilled families with money and social networks migration, resulting in the abandoned communities becoming polarized between affluent property-owners, on one side, and an impoverished underclass, on the other (IOM, 2009).

But ownership, land, house or business units can prevent people from migration. Poor or rich countries seem not to make differences in this matter. Both the developing and developed world shows that homeowners are less likely to migrate than non-homeowners .And it is worth to mention that lower-income home-owners are more likely to report plans to return than higher-income home-owners, both of whom are more likely to return than renters.

From the economic point of view it is found that the evidence of the role of poverty in stimulating migration post disaster is surprisingly conflicting. Migration may not be an option for the poorest and most vulnerable groups. Furthermore, there are factors that may encourage people to stay; studies show that effective disaster relief and recovery programs in both the developing and developed world can serve as a brake on movement out. Economic factors play a decisive role in both the risk and response to natural disasters, where developing countries are most vulnerable due to lack of resources to prevent, respond and cope with their effects. Remittances play an important role in development and post disaster recovery, thereby also contributing to adaptation (Mohapatra, S.2009).

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In New Orleans, people with low income did not leave their city, and for this reason, they were the main victims of the flood, loosing life and small properties (Fussel, E.2009). But on the other side, out-migration did not occur following the 2004 tornado in Bangladesh. The availability of aid, the effectiveness of distribution and the limited area affected all served to stem outflows. Notwithstanding arguments about aid discouraging self-sufficiency, the study shows how effective aid delivery can help people to successfully remain in affected areas (Bimal, K.P. 2004).

So, to avoid such an event, well planned programs have to be implemented at rescue and recovery stages. This can be done both at developed and developing worlds. Survivors usually loss job opportunities as well as their properties at their homelands, therefore, they move to other places seeking job and any opportunity for situation recovery. Many prefer to stay at new places when they find any opportunity for a new job or a better life. Then, they usually ask their family members to accompany them, and not to return to their homeland. For those who stay at their disaster stricken areas, may suffer from problems that happen in disaster aftermath, mainly economic problems (IOM, 2009).

In developing countries, migration of survivors usually happens by moving them toward safer areas. Many of these migrations occur because of cultural and social or financial reasons. In developed countries, governments can discourage post-disaster migration by giving economic incentives such as subsidies, low-interest loans and tax credits (Kolmannskog, V.2009).

A study done in Golden Stone, USA, after the 2003 tornado, the government discouraged local people from moving out of their homeland, using financial attractions as well as tax exemption, providing them with low-rate interest bank loans, and tax exemptions. Reports show that this policy was successful. But, at the Italian 2009 Earthquake case, affected people, even they lost their job because of earthquake disaster; they were forced to pay tax as if disaster would not occur. Significantly, most of survivors left their homeland towards nearby areas because of tax regulations.

Other social theory indicates that "social integration within a community will decrease the likelihood of disaster-event induced desire to migrate following a natural disaster". In this regards, a theory states that: Community integration will provide networks and social support for those who experience disasters. Those without strong bonds may experience greater amounts of distress in the event of a disaster as compared to those who are well plugged in to community organizations (Research Proposal, 2002*).*

A study project also indicates that after natural disasters, social integration became very crucial for the recovery stage. Those who are most likely to resist relocation tend to be those who have the strongest attachments to the community's cultural roots (Research Proposal, 2002*).*So can conclude that after a disaster event, if affected people have relatives outside of the affected area, they may attempt to move there.

In migration analysis the key drivers are:
 (a) Factors related to the region or country of origin, including political instability and conflict, lack of economic opportunities, and lack of access to resources ('push' factors);

(b) Factors related to the region or country of destination, including the availability of employment and demand for workers, higher wages, political stability or access to resources ('pull' factors);
(c) Intervening factors that facilitate or restrict migration, including ease of transportation, family or social networks, government immigration or emigration policies, economic ties such as trade and investment linkages, or social and cultural exchanges (IOM, 2009).

But at migration into a disaster stricken area, movements can take two forms: the entry of new migrants, whether they are seeking work in reconstruction or coming in to provide assistance and support to friends and relatives (IOM, 2009). The disaster somehow acted as a catalyst, as opportunities were created for personal betterment. Population movements included an influx by the rural poor from areas that were not damaged by the earthquake to areas offering employment opportunities in the international programs on housing construction and the building boom in the aftermath of disaster.

So, one can see that disaster can provide new opportunities for poor people nearby to get shares from aids and resources donated for survivors. It was seen in Iran, as well as elsewhere that during reconstruction time, this phenomenon were increased and more poor people came to disaster stricken areas seeking benefits. For this reason, many researchers and planers deal with reconstruction and disaster management believe that disasters cause population movements, either directly or indirectly. However, previous experience shows that even where new migrants come with the intention of leaving, the longer the jobs last, the more likely they are to stay permanently.

   b- *Migration from Bam after the 2003 Earthquake:*
Earthquake of 6.2 Richter happened in Bam, south of Iran, in December 26, 2003, resulted in sever destruction, claiming more than 34000 lives lost (Fig.1). The aftermath reconstruction program was implemented by the Iranian government and supported by 117 international NGOs as well as 36 national NGOs. At the beginning, lack of facilities occurred because of the earthquake forced many of the native people to leave their destroyed houses. But, significant support at international and national levels resulted in huge aids and resources. So, wealthy local people left their homeland seeking more comfortable places elsewhere .In steed, poor people, mainly from nearby rural areas moved into Bam looking for job opportunities as well as share of available aids and resources. After two years, social structure of the population was dramatically changed that mostly poor people were living in Bam that were not able to do the reconstruction program properly. Social disparities also were significant rising crime rates and destroying social integrity.

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Fig.1:Bam earthquake

When the wealthy people left the town, local and migrant poor people became the majority of the residents which affected the economic life of the region. Destruction occurred in socio-economic networks caused chaos to the whole life of the town, and resulted in delay in the reconstruction process which in its turn prevent wealthy people from returning back and starting business.

3.Research Methodology

The main research methodology of the research is based on a qualitative approach. A literature review was hold searching for theoretical works and international experiences. Then, a field study was conducted including observation as well as a survey. The survey was done and data collection using a pre-designed questionnaire, resulted in some quantitative data. Data analysis was done based on descriptive analyses.

4. Results and Analysis

The socio-economic of the town and the region of Bam was based on the date palms, as the basic product of the region (Fig.2) (Fig.3). Business associated with date producing, packaging, storage and exportation was forming a chain that destroyed by the earthquake. Farmers, workers, shop keepers, merchants and transport figures were engaged in this economic package. When the chain of this package destroyed as the town was destroyed by the earthquake; many of key figures of this business left the region and the chain could not restored itself to resume business. Workers of this chain of activities changed to new jobs that became available on construction sector because of the reconstruction program.

Fig.2: palm farms in Bam   Fig.3: date

Additionally, traditional water system which was vital for date palm farms was severely destroyed by the earthquake. The result was job lost at basic economic activities and creation

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of new, like temporary job opportunities due to the reconstruction program. This ended with local wealthy people leaving their homeland to be replaced by new comers who were so poor to be influential on reconstruction process. They also were lacking experiences within the urban culture on the town.

Furthermore, rich urban culture in the region and the city, which was well presented by the citadel (Arg-e-Bam), was integrated by physical heritage, traditional agriculture and social structure as three bases for the integrated culture. When the earthquake destroyed the town, some hidden networks which were forming this integrity were destroyed causing sever destruction to the whole urban system.

5.Conclusions

During the recovery and reconstruction time, the government, which was totally responsible for the reconstruction program was taking the earthquake disaster only as a physical destruction, and therefore, reconstruction to be as rebuilding houses demolished. But the real event was destruction which affected all aspects of the people life, including their socio-economic networks. The perception of earthquake by the government was keeping it far from considering social and economic aspects of reconstruction. This was the main reason to delay happened with the reconstruction process and the imbalance between rebuilding houses without restoring the people and the town socio-economic life. This was creating sever disorder in the town and the region and causing migration and population deformation.

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7.References:

Bimal, K.P. (2004).*Evidence against disasters-induced migration: the 2004 tornado in north central Bangladesh*. Department of Geography, Kansas State University, US.

Fussel, E & Sastry, N & VanLandingham, M.(2009). *Race, Socioeconomic Status, and Return Migration to New Orleans after Hurricane Katrina.*

International Organization for Migration (IOM). (2009*). Migration, Environment and Climate Change: ASSESSING THE EVIDENCE.*

Kolmannskog, V.(2009). *Climate change, disaster, displacement and migration: initial evidence from Africa.* Norwegian Refugee Council

Karim, N.(1995). *Disasters in Bangladesh*. Department of sociology, university of Dhaka, Bangladesh.

Mohapatra, S & Joseph, G & Ratha, D, (2009). *Remittances and Natural Disasters.*

Research Proposal, (2002*). Social Integration, Disaster, and Migration:A study of how social integration reduces migration intent following a natural disaster.*