

Impact of Floods on Women: With Special Reference to Flooding Experience of 2010 Flood in Pakistan

Syed Iazaz Ahmad Bukhari^{1*} and Shahid Hassan Rizvi²

¹Islamia University of Bahawalpur, Lahore, Pakistan

²Department of Pakistan Studies and History, Islamia University of Bahawalpur, Pakistan

Abstract

During floods under convoluted situations women have to adjust themselves. Pakistan's 65 percent population resides in rural areas which are the main victims of flood. As of 2010, the literacy ratio of rural women was just 34.2 percent. Moreover, 50 percent of females are married before the age of 20 and this factor is responsible for higher fertility rate (4.1) in rural areas. These ladies experience severe risks during their pregnancies. As of 2010, maternal mortality rate in rural areas was 319/100000 live births. Under cultural traditions of the country females have to stay at camps for around the clock. Most of the camps are unhygienic and overcrowded without spare space for feeding mothers. Anemic pregnant women and feeding mothers face the problem of malnutrition and food shortages. Wash rooms and toilets are insufficient, unsanitary and insecure and are one of the major causes of sexual assaults at camps.

Keywords: Maternal mortality; Anemic mothers; Sexual assaults; Malnutrition

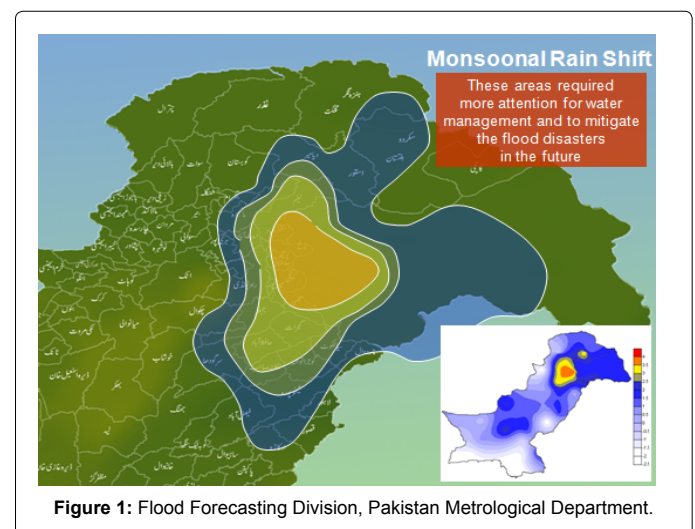
Introduction

Pakistan has been experiencing Inundations since its creation. Normally, During July-September summer monsoons that originating from Bay of Bengal arrive Pakistan from north-eastern side and result in heavy precipitation [1]. During these months summer monsoons also originate from Arabian Sea and bring forth showers in southern region of Sindh province [2]. In fact, this season bring showers with variable intensities for most parts of the country. During the season heavy downpours put in water into the main water channels like that of River Indus and Jhelum etc. As these water courses have limited water holding capacities, in case of exceptionally heavy rainfalls like that of July-September 2010, these channels cannot hold entire volume of water and start over flowing and bring forth major submerges. These inundations turn out to be more overwhelming owing to higher rates thawing of snow and glaciers in the elevated northern mountainous region of the country [3]. It's a general observation that a densely populated region always remain under threat of natural hazard and one can put forth the example of Upper and Lower Indus plains which are on one hand, the most densely populated region of the country, while on other hand have always been the main victims of floods throughout the history of the country. The life cycle of around 40 percent residents of this region, even under normal circumstances is inflexible as these people are living under poverty line with limited access to health facilities [4] so, during floods their life become miserable as they have to come across worst things of their life such as diseases, mental traumas and deaths etc (Figure 1).

Under the influence of specific climatic conditions, Pakistan has to experience flooding on yearly basis with varying intensities. Active flood plains experience floods with lesser intensities almost every year. When flood waters cross their routine flooding limits, it develops a hazardous situation. Pakistan has experienced such situations many a times in its history for instance, in 1973, 1976, 1988, 1992, and 2010 [5] (Figure 2).

Whenever there is flooding in any part of the world even in the more economically developed countries (MEDCs), it cause many problems and among these challenges socio-economic problems have always been a matter of concern, but for these countries every challenge

has the same meanings for every individual of the society [6]. As far as less economically developed country (LEDCs) are concerned like Pakistan discriminatory treatment with females, primarily during floods displaced females have to stay around the clock at filthy relief camps while most of these have been deprived of the basic human needs [7]. During self-conducted survey it was found that more than 76 percent of camps were filthy, more than 83 percent of the camps were overcrowded, more than 67 percent of the camps were deprived of the facility of safe drinking water, more than 79 percent of the camps were deprived of the facility of reasonable category of toilets and wash rooms for human use, more than 71 percent of the camps were unable



*Corresponding author: Syed Iazaz Ahmad Bukhari, Islamia University of Bahawalpur and Visiting facility member IUB, Pakistan, Tel: +92 62 9255561; E-mail: iazaz.bukhari@yahoo.com

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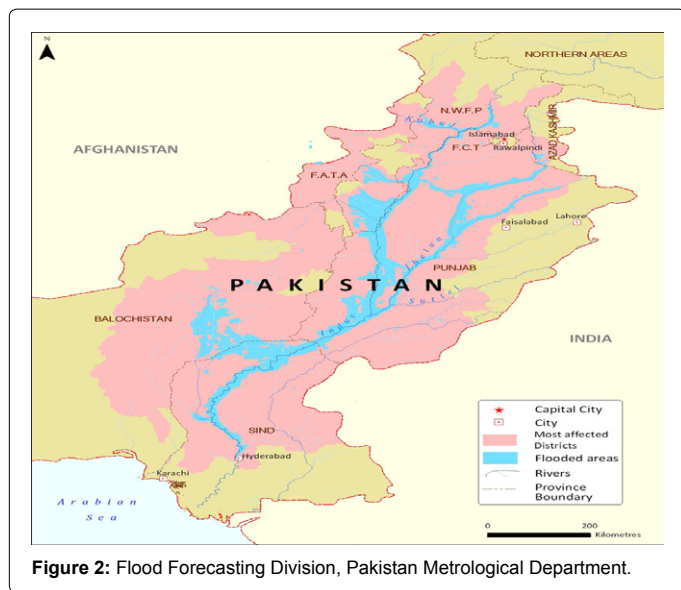


Figure 2: Flood Forecasting Division, Pakistan Metrological Department.

| Countries | 2010 (Year) |
|------------|-------------------|
| Pakistan | 3.4 highest value |
| Bangladesh | 2.2 |
| India | 2.6 |
| Sri Lanka | 2.3 |
| Nepal | 2.7 |

Table 1: Fertility rate FR (births per woman) (in South Asia).

to facilitate these people under extreme climatic conditions. More than 66 percent of the camps were not safe and secure for young females. When women have had to stay at these camps around the clock and perform all of the necessary activities like use toilets, lactating mothers to feed their babies etc. Unfortunately, these women have to stay within this horrible environment but such forced adjustments had always created stories of miseries [8] (Table 1).

Methodology

The center of attention for this study has been to focus on the flood affected female community and their efforts to adjust themselves under critical situations. All the facts and figures used in this study have been accessible for the judgment of the status of the study. July-August 2010 flood, affected 78 districts [9] all over the country. Out of these districts 24 were from KPK, 17 from Sindh, 12 belonged to Balochistan, 11 districts were from Punjab and left over 14 districts belonged to AJ&K and GB [10]. Out of these 78 floods affected district of Pakistan, 29 districts were recognized as severely flood affected districts [11]. Out of these 29 severely flood affected districts, total number of 13 districts were taken as random samples, 04 districts from each province KPK (Nowshera, DI Khan, Mardan and Charsada), Sindh (Sukkur, Thatta, Badin and Shikarpur) and Punjab (Muzzafargarh, Multan, Rahim Yar and Jang) were taken as random samples, while two districts were selected as random samples from Baluchistan (Jaffarabad and Naseerabad).

After that 50 house-hold samples were randomly selected from each district. While 150 house-hold samples were taken from remaining from flood affected districts of Pakistan. Purpose was to cover maximum flood related concerns of the flood affected community of the country. Total 800 house-hold samples were investigated from all over

the country. Male and females both were given proper representation. The age of the sample considered to be 30-65 years. The maturity, experience of floods, memory and reflexes of the respondents were also taken in to consideration. Along with it doctors, representatives of relief providing agencies, government officials and scholars/experts of the field and media spokes person were also interviewed randomly.

Self-observations, photography and recording videos during the July-August flood 2010 were also used as a basic source of data collection. Data from eight daily Urdu newspapers and also from eight daily English news papers on Daily basis was extracted during the months of July-august 2010. Numerous studies have also been thoroughly reviewed for the purpose to justify and make the under discussion topic interesting.

Review of Literature

Academic circles all over the world as well all over the country have tried to produce much thought and research to highlight women's adjustment as a result of floods [12]. Academia has also been trying to investigate fool proof ways to facilitate flood affected females in Pakistan and has also been working on relief and rehabilitation of the flood affected women, particularly the women suffering from diseases and health problems like pregnant and anemic women [13].

Basically Neumayer and Plümper in their article [14] "The Gendered Nature of Natural Disasters: The Impact of Catastrophic Events on the Gender Gap in Life Expectancy, 1981-2002," relates affects of natural hazards on pregnant women with, maternal mortality rate and discusses its social, economic and psychological effects.

Laerke, in her Ph D Thesis [15] entitled as: "Ensuring a Sustainable Development within a Changing Climate", discusses that various practices must be used to avoid and mitigate climatic hazards such as floods. She also discusses various tools to attain sustainable development within a changing climate. She also suggests how to handle flood affected people during and after the strike of floods. She also suggests how to ensure the safety of pregnant women and lactating during natural hazards and facilitate anemic mothers.

Najam-u-Din, in his article, "Internal Displacement in Pakistan: Contemporary Challenges [16]", points out that during migration and after return affected female have had to face immense problems. It also highlights the major difficulties and different areas of concern that have to to be dealt with through domestic directives.

UNICEF in August 2010 prepared a report, entitled as, *Pakistan Monsoon Floods*, the work discusses that the summer flood of 2010 was worst in the history of Pakistan as an estimated 3.2 million people have been affected across the country. The work stresses that the flood has damaged roads; washed away health facilities. Availability of food and fresh water at filthy and unsafe camps had become a problem. The work also highlights the ways of facilitating the flooding affected community by the NGOs and INGOs.

The structure and system of NDMA in the country focuses on mitigating floods while on other hand after the strike of a flooding event it also provides rescue, relief and rehabilitation facilities. *NDMA Annual Reports* [17] (2010, 2011 and 2012) discuss disaster management system in Pakistan like organizational structure of NDMA, and its response to major disasters in Pakistan like to July-August flood 2010.

Federal Flood Commission (FFC) works under the influence of Ministry of Water and Power. *Annual Flood Report 2010 floods* [18], by the Office of the Chief Engineering Advisor and Chairman,

Federal Flood Commission, Islamabad, and Annual Flood Reports 2011 and 2012 floods, by the Office of the Chief Engineering Advisor and Chairman, Federal Flood Commission, Islamabad. These reports describe the mechanics of floods in Pakistan and also mention that how females in Pakistan fought with roaring waters with in during historic flooding

Asian Development Bank and World Bank, in 2010 published a DNA [19] entitled as, *Pakistan Floods 2010: Damage and Needs Assessment*; the purpose of this DNA (Damage and Needs Assessment) has mentioned that during July-August 2010 flood, 515 health facilities (5.3 percent) out of 9721 health facilities all over the country were damaged or totally destroyed. As the work force displaced and infrastructure was damaged so 100 percent of the health facilities were not fully functional to facilitate the affected women.

Afzal and Anam Yusuf in their article, “The State of Health in Pakistan: An Overview [20]” mention that as of 2010 in Pakistan, MMR had been very high as compared to other South Asian countries, the possibility of death at the time of delivery of a mother had been 1 in 80. The article also highlights that in comparison to other South Asian countries, Pakistan had been for behind in immunization coverage, contraceptive use, and infant mortality rates. It also highlights that during 2010 floods women had been ill-treated particularly at camps.

Results and Discussion

Whenever there is flooding, it brings about with it a number of socio-economic problems. One of the main social problems caused by floods has been female’s adjustment during floods especially at relief camps where they have to stay around the clock. These problems become exceptionally complex as a result of massive human displacement and overcrowding at mismanaged flood relief camps [21]. On one hand Pakistan has been ranked as 145 out of 187 countries on UNDP human Development Index, on other hand 65 percent of its population resides in its rural part [22]. Floods mostly strike the rural part of Pakistan which is even under normal circumstances deprived of the basic facilities of life. Moreover, in the presence of 65.8 percent of illiterate rural women [23] at camps, how can one expect some extraordinary steps towards adjustment from this section of community? It must be noted that even during normal circumstances these females have no outdoor exposure and have to stay at homes round the clock. These females have not been permitted by their families to get medical assistance even under critical situations from male doctors. These are not allowed to join some private or public sector job. The Gender Inequality Index of the Human Development Report 2010 mentioned that as of 2010, female participation ratio as labour force remained as 21.80 percent in comparison to 86.70 percent men participation rate [24]. Insecurity, illiteracy, lack of confidence and social attitudes are some of the obstacles which don’t let the women of our society to play their roles as labour force drastically. While on other hand, during 2011, Global Gender Gap report mentioned that on the Gender Index, Pakistan has been ranked 133 out of 135 [25] (Table 2).

During self-conducted survey it was observed that at more than 90 percent of relief camps disease control activities were found to be second-rated. If we have a comparative analysis of the amounts allocated for health sector during recent past, we come to know that the government has allocated nominal amount for health sector. For instance, public sector health expenditure during 2006-07 were 0.57, during 2007-08 were again 0.57, during 2008-09 were 0.56, during 2009-10 were 0.54 and during 2010-11 were only 0.23 percent of GDP [26]. It was the basic need of the people of Pakistan to increase the ratio

| Relief Camp Situation | Percentages |
|-------------------------------------------------|-------------|
| Filthy camps | 76% |
| Overcrowded camps | 83% |
| deprived of safe drinking water | 67% |
| Provided with irrational toilets and wash rooms | 71% |
| Unsafe under extreme climate | 71% |
| Unsafe and unsecure for young females | 66% |
| Unavailable disease control activities | 90% |

Table 2: Over-view of relief flood camps in Pakistan during July-Sep 2010.

| Place of Defecation | Before floods Percentages | After floods Percentages |
|---------------------|---------------------------|--------------------------|
| Communal latrines | 10% | 20% |
| Household latrines | 58% | 26% |
| Open fields | 32% | 54% |

Table 3: Over-view of female defecation practices during July-Sep 2010.

| Countries | 1990 (year) | 2010 (Year) |
|------------|-------------|-------------------|
| Pakistan | 490 | 260 highest value |
| Bangladesh | 800 | 240 |
| India | 600 | 200 |
| Sri Lanka | 85 | 35 |
| Nepal | 770 | 170 |

Table 4: Maternal mortality rate per 100,000 live births (in South Asia).

of GDP expenditure on health sector every year but the data indicates these are declining year after year. Even, after the strike of July-August 2010 flood, during 2010-11, there was a dire need to increase this ratio up to the maximum extent but this ratio declined badly. Here’s a question, when a quarter of a country’s population had been affected by floods and been suffering from diseases and injuries. How can a government reduce the percentage of expenditure specified for health sector? But it was nothing, as the central government itself had repeatedly been caught for setting up medical as well relief camps for just photo sessions. On other hand, affected community appreciated the role of private donors who had been directly distributing food, clothes, blankets and money among the flood affected people. More than 95 percent of the people were dejected at the unhygienic situation at relief camps. Availability of food on regular basis was another issue. For instance, on September 01, 2010, hundreds of families from flood relief camps kept blocked the National Highway for more than three hours [27] and their demand was just food for their small kids and families whom were dying with hunger. When illiterate rural community had been living in overcrowded camps, under unhygienic conditions, wearing dirty clothes and put malnourishment a side, there was nothing to eat at camps. Assume, under such critical situations the adjustment of affected women look like a miracle.

Under these unfavorable conditions these brave women tried their best to adjust themselves at camps. Putting aside all other things from the table B, we can assume how difficult it had become for affected ladies to perform their defecation practices (Table 3).

Under these more than tough circumstances, 180,000 pregnant and lactating mothers [28] had been fighting against quite a lot of problems at flood relief camps. In Pakistan, under normal situations maternity mortality rate (MMR) in comparison to under developed South Asian countries is very high (Table 4).

Women living in rural areas as usual had always been at higher risk of dying of maternal cases as compared to the urban women. In urban areas, during 2010 MMR was 175/100000 live births while in rural

areas MMR was 319/100000 live births [29], which is more than double in rural areas. Moreover, in Pakistan 50 percent of females are married before the age of 20 and this percentage is much higher among rural women. These early marriages are responsible for higher fertility rate (4.1) among women [30]. These ladies experience severe risks during their pregnancies and are responsible for higher MMR. In Pakistan eight percent of maternal deaths are referred as iatrogenic. This clearly points towards poor quality of services that had been provided to the women at the time of delivery. You can imagine the situation, when such a country suffers from a super flood like that of July-August 2010 and experiences extensive health related damages and destructions. During July-August 2010 flood, 515 health facilities (5.3 percent) out of 9721 health facilities all over the country were damaged or totally destroyed [31]. As the work force displaced and infrastructure was damaged so 100 percent of the health facilities were not fully functional to facilitate the affected people. But for these women getting medical services was not an easy task as these had to get permission for it and this delay had also been a major cause of higher MMR. This vital factor can be easily analyzed with the help of table D (Table 5).

At the end of fiscal year 2010, many independent sources claimed that in the flood affected areas MMR had been calculated as 381/100000 live births. Under mentioned miserable conditions, one cannot reject this claim easily. No doubt, the government and all other agencies tried their best to handle the issue properly. But unavailability of much needed resources, lack of trained staff, in the presence of certain traditions and very high illiteracy rate, this increase in MMR appears to be quite logical.

It is the factual history of the flood affected community of Pakistan that pregnant women caught in the floods died or became disable as a result of pregnancy related complications. The question is why this happens so. The answer is so simple and clear. In the absence of specialist lady doctors (gynecologists) at the relief camps, these women could not have access to regular check-ups, laboratory tests, needed diet and exercises. Even at the time of delivery non-technical women handled the cases resulted in deaths or some other complications [32]. The worst thing is that such deaths are not counted in flood related deaths and in most of the cases even family members don't bother about such death or disabilities just say, "it was the will of God." If we try to study the history of such cases during the summer flood of 1973 around 947 pregnant women became the flood victims, during the flood of 1988, the pregnant women affected by flood waters were 1,125 and 133,000 women were directly affected by the July-August flood 2010 [33].

During the year of 2009-10, all across the country 10.7 percent of the female adolescents (15-19) years old got married out of which 13.8 percent belonged to the rural parts of the country. But during 2010-11, all across the country 16 percent of the female adolescents (15-19) years old got married [34]. As during 2010, 1/5th part of the country remained under water and it mainly comprised of rural areas which are basically the centers of early marriages. This increase in the rate of early marriages was due to insecurity among flood affected community

| Persons | Percentages |
|---------------------------------------------------------------------------------------|-------------|
| Husbands | 55% |
| Mother-In-Laws | 25% |
| In the absence of husbands someone else presents then Father-In- Laws/Brother-In-Laws | 10% |
| Permission is not necessary for going to health care centers | 10% |

Table 5: Person's permission for going to hospitals in case of emergency situations.

| Type of Violence recorded | Percentages |
|---------------------------|-------------|
| sexual harassment | 5.8% |
| Forced sexual services | 2.4% |
| Forced marriage | 3.4% |
| Attempted to rape | 1.1% |
| Rape cases reported | 2.6% |
| Human trafficking | 0.5% |
| Physical assault | 10.30% |
| Domestic Violence | 61.30% |

Table 6: Violence reported against females during 2010-11.

| Category | Cases of Aug | Cases of Sep. |
|-------------------|--------------|---------------|
| Rape | 108 | 56 |
| Sexual Harassment | 19 | 7 |
| Domestic Violence | 81 | 81 |
| Honor Killing | 75 | 24 |
| Suicide | 22 | 6 |
| TOTAL | 305 | 174 |

Table 7: Descriptive statistics of the months of August and September, 2010.

about the future of female adolescents due to reported and unreported cases of sexual assaults, sexual harassment, rape cases etc.

Flood affected females also have had to pass through a serious issue of their life due to overcrowded and insecure more 66% of relief camps (table, A). Mentally sick opportunists took this opportunity as a blessing and involved themselves in a shameful act termed as rape. In the province of Sindh overall 172 women were reported as raped from 2008-2011. Out of these 49 were raped in 2008, 20 in 2009, 50 in 2010 and 16 women were reported as raped in 2011. In KPK overall reported raped cases were 654 from 2008-2011, out of these 158 women were reported as raped during 2010 [35]. In Baluchistan which was not the main flood affected areas during 2010 where Total two women were gang-raped during 2006, 2007, 2008, 2009 and 2010 however, both cases were reported in 2010. In Punjab, as many as 1,075 women were raped from 2008-2011 out of these, 202 women were raped in 2008, and also 202 in 2009, 237 rape cases were reported in 2010 and 225 in 2011. If we compare the figures of rape cases these have been comparatively higher in 2010 as compared to other years (Tables 6 and 7).

Conclusion

In Pakistan in normal circumstances, the different things don't happen as we expect. But, during July-August 2010, flood affected females fought against shocking things with patience and courage. Displaced ladies had to stay at filthy, insecure relief camps where availability of food and water was not an easy task. More than 180,000 pregnant and lactating mothers were fighting against for the babies and certain cultural traditions even took the lives of these brave women in the form of higher MMR. On one hand these females were facing difficulty in defecation practices while on other hand were facing shocking attitude from their society in the form of rape attempts, sexual harassment, domestic violence and honor killing. A few of them (22 during August and 6 during September 2010) became so desperate from the hostile attitude of this society towards them that they committed suicide. We cannot ignore the factor that rate of marriages for 15-19 years old girls reached 16 percent which is very high.

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