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URBANIZATION AND DISASTER RISK IN PAKISTAN

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Abstract: This paper aims to represent the population trends, rapid un-planned urbanization and its related disaster risks. It is widely accepted that, the fatality of disasters has increased since the last decade. And it is an undeniable fact that Asia is more prone to disasters because of rapid urbanization and natural hazards. The greater the number of people settles in urban areas, the higher will be the probability of disaster occurrence. Thus, a single minor disaster event can result a human catastrophe to destroy decade of development gained. Similarly, Pakistan is one of the most vulnerable countries, where population and un-planned urbanization expanded rapidly. Most of the cities are growing, often in disorderly manner with low capacity and infrastructure, that becoming more vulnerable to disasters. Furthermore, lack of policies regarding land use planning and improper building codes enhanced scattered settlement that may further exposed the cities to disaster. Apart from that, the current population trends and unsafe settlement brings enormous challenges and high risk to disaster. However, cities that have sustainable development and disaster risk reduction measure and policies, are safe enough.

Keywords: Population growth, slump, urbanization, disaster

INTRODUCTION

The world population increasing rapidly at the rate of 10,000/h, 250,000/day and annual increasing rate is more than 90,000,000. World population is unevenly distributed, 20% of the resources consumed in 80% developing countries, while developed 20% countries consuming 80% of the resources. World population is increasing at a rate that will reach to 7.2 billion in 2015. Furthermore, the world's half population will reside in cities at the end of 2015, where eight mega cities out of 15 will be in Asia. In 1900, 10% of the world population was residing in cities but now it has increased to 50%. And cities are at higher risk than rural areas and more prone to the impacts of disaster (Juha 1998, Tingsanchali 2012).

The reasons for increasing urbanization are due to increase in growth rate as well as rural to urban migration. Asia is the largest continent with 4 billion populations that contains more than 60% of the world population. And it is quite likely that the increasing level of disaster risk associated with urbanization that international experts now perceived is an underestimate. Therefore, natural disasters caused deaths approximately 75% in this continent that showed its vulnerability to natural as well as manmade disasters (Xiaoyan and Xiaofei, 2012). The rapid increase in population results in un-settle urbanization that makes the people and communities more vulnerable to different hazards. Similarly, Pakistan is one of the countries of Asia that has a rapid growth in population, and having highest rate of urbanization. From 1950 to 2011 urbanization expanded seventh fold. According to 2011 estimation, the total population of Pakistan is around 183 million. Most of the urban settlement is unplanned with poor construction, lack of proper building codes and land use policies. In addition disaster risk reduction measures have not been implemented in the cities (Hamza and Roger, 1998). Consequently, weak urban settlement makes the cities prone and highly

vulnerable to disasters. Furthermore, if proper measures are not acknowledged for overcoming this practice now disasters will occur at unprecedented scale.

MAIN ISSUES RELATED TO URBANIZATION

- ≡ Deforestation may leads to environmental and global effects on population, "forests are vanishing at a rate of 7.3 million hectares annually" (Jie et al. 2012).
- ≡ Inadequate provision of public infrastructure and basic services.
- ≡ The larger the number of people settled in an at-risk area, the higher the probability of human hazards as a result of hazardous and poor quality housing.
- ≡ People become more prone and vulnerable to floods, earthquake, land slide, etc (Chaolin et al. 2011).
- ≡ Expanded infrastructures make community more susceptible to disasters.
- ≡ Urban violence
- ≡ The people start living on marginal land
- ≡ Unplanned greater settlement and health challenges.

RELEVANCE TO PAKISTAN

Urban violence: the rate of urban crimes and violence increase day by day. The ratio, of physical accidents and target killings, especially in (Sindh, Punjab and Baluchistan). On the other hand Terrorism is increases especially in KPK and some regions of Punjab due to overcrowding. Health challenge: Most of the cities populations are at high risk of developing communicable/food and water born diseases and injuries. That unnecessarily high health burden on existing health facilities (Takeshi et al. 2009). Urban poverty: in most of the cities of Pakistan with Low and middle income groups, have built their houses on low cost at dangerous sites, for instance population along sea side at

Karachi, and population along Kabul river are at high risk to flood (Bharat 2012, Richard et al. 2014). Figure 1 illustrates the population growth of Pakistan from 1951 to 1998. And Figure 2 shows the percentage of fire incidents in various parts of the country.

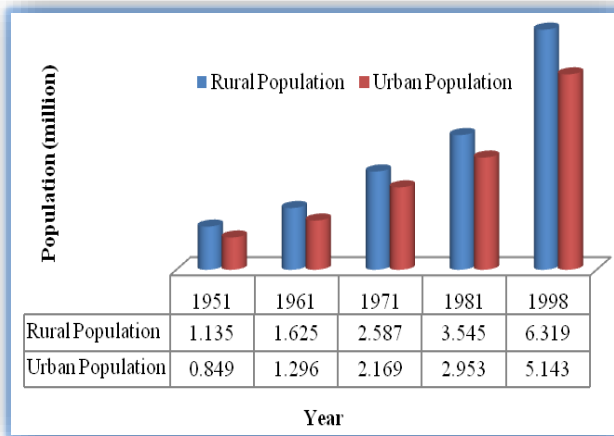


Figure 1. Population data of Pakistan

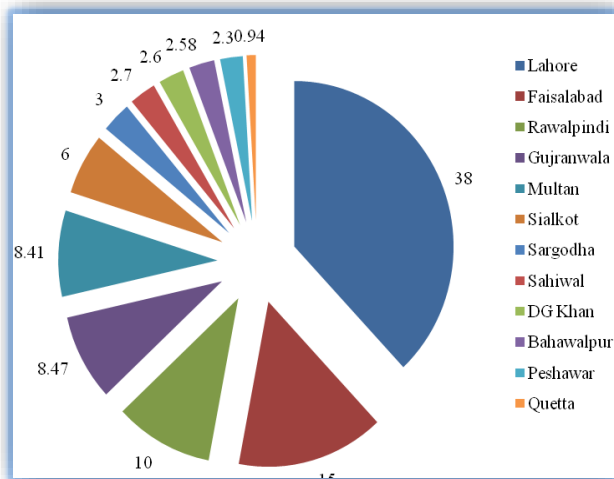


Figure 2. Percentile of fire incidents of Pakistan

URBANIZATION TRENDS IN MAJOR CITIES OF PAKISTAN

Karachi:

US magazine terms Karachi as the most dangerous megacity in the world. According to population census in 1941 Karachi population was reported as 0.34 million, the total area covered about 8.3 sq km in 1946. But now the city spread over 3530 sq km, with current estimated population over 18 million. By population Karachi is among the ten largest cities of the world (Takeshi et al. 2009).

Approximately half of the urban population of Karachi has five percent (5%) highest growth rate, while other cities have three percent (3%). Karachi population has increase more than 80% for the last 10 years. Migration from other regions of the country is also one of the factors for increasing in population of the city. Furthermore, Increase in population of the city boost in crime rate, environmental degradation, and shortage of resources. With increasing in population of the city, the rate of disaster incidents increase (Tracey et al. 2011). For instance, Fire in textile factory in the western part of Karachi, engulfed above hundred factory workers

and some seriously injured. Similarly population expansion and rapid urbanization can increase in accidents and emergencies. The number of Pakistani industrial accidents grew up to 419 in 2008, compared to 354 in 2000.

Lahore:

Lahore is the old city and the second large city of Pakistan. According to 1998 census in Pakistan, the population of Lahore was 6,318,745, out of which 81.70% was urban. Today, the population of Lahore has reached to 10,000,000. Also according to 1951 census, urbanization in Lahore was 0.849 millions, now increased to 8.7 millions in 2006 (Leisnham, 2011).

The dense population of the city increase threats of multiple hazards. A survey was conducted for major fire incidents in some cities of Punjab by Rescue-1122 (Liang et al. 2012). The study focused on fire incidents in major cities of Punjab, they reported 37000 fire incidents with estimated with estimated loss of 18.133 billion.

Rawalpindi:

The population of Rawalpindi was, 3,363,911. Out of which 53.03% were urban, shows that Rawalpindi is the second most urban city of Punjab. Like other cities, Rawalpindi also facing high incidents rates of disaster. Ghakar Plaza fire incident occurred on December, 20th 2008. 18 persons were died and 59 were injured. The incident cost loss of 1.12 billion (Jun et al. 2011). Thus vulnerability of the city increasing to disaster, with lack of disaster reduction measures in the city.

Peshawar:

According to census of 1998, the population of Peshawar is roughly doubled to about 3.3 million people due to migration of different refugees and IDPs (Internally Displaced People). The estimated population for 2015 is 357100. Similarly Peshawar the capital of KPK is facing the same population trends, high crime rates and vulnerability to manmade as well as natural disaster (Lorena and Ian, 2005).

CONCLUSION

It is concluded that the population trend in Pakistan is very high, that may ultimately results in unplanned and rapid urbanization and at high risk to occurrence of disaster. Moreover, lack of policies, proper building codes, and scattered settlement may leads to weak planning capacity and high vulnerability to disaster in most cities of Pakistan. As we know that, it is almost impossible for organization departments to keep plan rapid urbanization trends, and building standards in large cities, however, it is important for them to take in account that the nature of vulnerability and risk is misinterpreting in urbanization. And finally it is concluded that, there is a link between urban and rural disaster impact. For instance, rural disasters bring disruptions to urban centers to which they supply materials like, fuel, food and other goods, while urban disasters disrupt the suppliers of all services. Therefore, the authorities should implement the following recommendations in order to minimize risk of disasters.

RECOMMENDATIONS

- ≡ Provide proposal for proper land use, which contain social and demographic policies for urban disaster risk reduction

– Bulletin of Engineering

- ≡ The implementation of structural engineering techniques, development projects and maintenance of infrastructures may prevent or minimize disaster risks.
- ≡ Conduct risk and hazard assessment to identify the hazard prone areas and make safety of all infrastructures.
- ≡ Protect the natural environment and ecosystem.
- ≡ Promote emergency medical services and enhance early warning system to minimize loss during disasters.

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