

Preliminary Survey Report After Monsoon Rains in Karachi

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Introduction – An overview of Karachi

The city of 16 million and more, Karachi is the heart of Pakistan's economy. Being the biggest city in the country, it holds 33 percent of Sindh's population and 20 percent of the nation's urban populationⁱ. It has the twelfth largest urban population globally and will be seventh largest by 2030.ⁱⁱ Some of its big concerns include highly complex political economy, divided administration and weak institutional capacity, which have made the city's development a difficult task. Despite being home to millions and being an opportunity center of the country, unfortunately Karachi faces many issues. The city has been ranked 136th out of 140 cities in Global Liveability Index 2019ⁱⁱⁱ and is exceptionally dense with more than 20,000 people for every square kilometer. The city lacks urban planning and service delivery due to several reasons. Open spaces and heritage sites are under the threat of commercialization of land. Urban green space is just 4 percent of the city's developed territory^{iv}. This all is further exasperated by insufficiency of basic services.

It is pertinent to mention that despite facing mega multidimensional issues, Karachi is the largest city of Pakistan and the hub of economic and financial activities, contributing 25% to nation's GDP^v and is the largest contributor in federal tax revenue with a share of 55%^{vi}. The evidence from nighttime lights, which is a strong proxy to measure economic activity, shows declining economic activity in its core areas and moving towards its periphery^{vii}. This stagnation of economic action in the focal territories is dangerous for long-term development goals of the city. On the positive side, Karachi saw considerable decline in poverty in the 10 years from 2004-05 to 2014-15 where in 2014-15, 9 percent of the city's population was living in poverty in contrast to 23 percent living in poverty in 2004-05. Due to this, Karachi is the least poor district in Sindh and third least poor in Pakistan. However, due to its mega size and big population, high poverty and inequality remains a great issue for the city.

Environmental Risk and Karachi

Karachi witnesses serious environmental challenges that influence profitability and development in the city. The city deals with dangerous levels of air, land and marine pollution. Inadequate management of solid and hazardous waste including medical waste, raw sewage, industrial and pollution caused by transportation and inefficiency of putting a price on carbon, mainly cause this pollution. A study by the World Bank (2015) estimated that the cost of Rs.371 billion occurs annually to residents of Sindh due to environmental health impacts which is equal to 10 percent of provincial GDP. It is assumed that 70 percent (PKR 260 billion) of this cost occurs in Karachi.^{viii}

Karachi - Monsoon 2020

Recently monsoon rains of an extraordinary scale caused floods in Pakistan including in Karachi, where both the volume and amount of land flooded was an unprecedented calamity. The city of Karachi received record-breaking rainfall in between 24th – 27th of August where a whopping 230 mm of rainfall on a single day of August 27 was recorded^{ix}. The data shared by National Disaster Management Authority reports 184 deaths in rain-related incidents across the country where 80 deaths were reported in Sindh and 47 fatalities were reported in Karachi alone. These deaths were caused by either drowning, electrocution or collapsing roofs. In total Karachi received 604-mm of rainfall in the month of August, making this August the rainiest August in 89 years.^x



Dawn.com

The overwhelming monsoon spell mixed with outdated flood warning technology, collapsed drainage, weakened infrastructure, absent or clogged nullahs, disrupted or shut down of electricity supply, flooded households, loss of material and structural loss of properties caused chaos in all areas of the city. This intense spell of monsoon plagued the city with waterlogging, flash floods and power cuts over the city^{xi}. This report is an attempt to measure the preliminary impact of flooding in Karachi.



Photo credits: Qazi Hussain - Dawn.com

Karachi witnesses monsoon rains normally in the month of June to September. The annual average rainfall for Karachi is 174.6 millimeters or 6.87 inches (1981-2010). The highest annual rainfall of 713 millimeters was recorded in 1967^{xii}. The highest rainfall in a single day was recorded on 27th of August, 2020 where 230 mm of rain was recorded in the city^{xiii}. The city recorded an increase in rainfall in 2003, 2006, 2007, 2009, 2010, 2017, and 2019.

Districts of Karachi

Karachi is divided into 7 districts named Karachi Central, Karachi East, Karachi West, Karachi South, Korangi, Malir and Keemari. Keemari is a newly added district^{xiv} and

lacks representation in the data hence the study recognizes six districts and has collected data accordingly. Each district is further divided into sub districts in the city. According to Census 2017, Karachi has total population of 16,051,521 people from different ethnicities and socio-economic backgrounds. Karachi Central has population of 2,971,626 with major sub districts of Gulberg, Liaquatabad, Nazimabad, New Karachi and North Nizamabad. District East with population of 2,907,467, has major sub-districts named Ferozabad, Gulshan-e-Iqbal, Gulshan-e-Hijri, Jamshed Quarters and a cantonment named Faisal Cantonment. South district with major sub districts of Aram Bagh, Civil Lines, Garden, Lyari, Saddar and 2 cantonments including Clifton cantonment and Karachi Cantonment has population of 1,791,751. District West which is the most densely populated district of the city with population of 3,914,757 comprises of Baldia, Harbour, Mango Pir, Manora Cantonment, Mauripur, Mominabad, Orangi and Sindh Industrial Trading Estate (SITE) area. The Korangi district with population of 2,457,019 consists and sub-districts Korangi, Landhi, Model Colony and Shah Faisal while district Malir has population of 2,008,901 with sub-district Airport, Bin Qasim, Gadap, Ibrahim Hyderi, Korangi Creek Cantt Malir Cantt, Murad Memon and Shah Mureed.^{xv} All districts have land used for both residential and business purposes where different types of market pockets exist.

Methodology

To estimate the damage for the flood in the city, the authors applied a series of methodologies in each sector. A common methodology used by all authors was the use of questionnaire for primary data collection for the damage estimation in each category (Housing, Business and Public Infrastructure). Since most part of the city was submerged in knee-deep water and roads were hard to access, the team designed a questionnaire focused on questions regarding residential damage, damage caused to businesses and damage caused to public property including schools, roads, hospitals and public offices etc. In total 517 individuals filled the questionnaire from all the districts in the city. Although we were able to collect a heterogeneous core survey in terms of age, gender, employment status and type, area of residence and other indicators of socioeconomic status, we make no claim that our sample is representative of the entire population of the local areas. Self-selection bias is a well- documented research phenomena and may have persisted in the sample due to limitation of data collection. This is also one reason why the authors opted for more than one source for data collection. The details of the methodologies used in the each sector of the report are stated below:

Housing

The data for the damage in residential property primarily comes from the questionnaire where the individuals are first inquired about their residential district and areas. Secondly, whether their property was damaged during the recent rain. It is also mandatory for individuals to provide information regarding the damage caused to other housing units in

their area. To complement our primary data collection, the author analyzed data from other existing sources. The author contacted the rescue services including Edhi, Cheepa, Aman Foundation and PDMA in order to collect the information to measure the severity of the damage caused to residential units in their rescue fields. The rationale behind contacting these rescue services was to assess the firsthand information collected from these sources to confirm the damages in the area. However, unfortunately a link with the official rescue services could not be built hence the admin of an informal group named “Help us, Help Karachi” on a famous social media site comprising of 15000 individuals from different affected parts of the city was interviewed via zoom to confirm the loss reported by residents of all district. This helped the author to analyze the similarities and differences between the primary data collected through questionnaire, data collected through rescue networks and media to analyze the loss in the areas where this survey could not reach due to certain limitations.

Industry

To assess the economic impact of floods on the industrial sector, it was imperative to collect the primary data through questionnaire from the representative sample of various industries, along with secondary data available from various sources. For this report, the author adopted a hybrid methodology i.e. triangulation of media reports, one-to-one interviews with the business community and online survey questionnaire.

Public Spaces

The primary data to assess the percentage of damage to infrastructure including roads, schools, and hospital and public spaces has been collected through online survey to gain the basic information about the damage in each district of Karachi. Each respondent was asked to report the damage to the public services in his/her residential area. To complement the primary data, the author has used other methods including news reports, field visits and one on one interviews with concerned department personnel.

Descriptive Characteristics of Questionnaire Respondents

This part of the report presents the descriptive characteristics of the participants in the study. In total, 517 individuals took part in the survey from different age groups starting from age 14 to age 65 and above. 53.2 percent individuals identified themselves as male, 45.6 percent identified themselves as female and 1.2 percent preferred not to disclose. These individuals self-identified their working status. 42.4 percent respondents reported working for an employer and 41 percent reported themselves as unemployed while 16.6 percent reported self-employment. While reporting income, 40.5 percent reported earning less than Rs.20,000, 29.9 percent reported earning in between Rs.20,000–60,000, 12.4 percent reported earning in between Rs.60,000 – 100,000, 9.5 percent reported earning between 100,000 – 200,000 and 7.7 percent reported earning more than 200,000. The income data was collected on a monthly basis. The data collected through questionnaire

shows that 21.1 percent respondents reported living in Karachi South, 33.5 percent are from Karachi East, 22.6 percent from Karachi Central, 12.4 percent from Malir District, 5.2 percent from West Karachi and 5.2 percent are from Korangi. The reason Karachi West and Korangi have the least representation in the survey is because firstly, this survey was collected through internet and these areas may not have equitable access to internet and secondly, these districts are one of worst affected districts where majority of the industrial labor of the city resides. This was also confirmed through media reports and during the interviews of the rescue teams via zoom.

Findings

Damage to residential property

Housing damage consists of, but is not limited to, damage to direct building fabric, inventory items and reconstruction cost. Ideally, to assess the property damage, it is imperative to know the number of property affected in the area and the average loss per property type. Both these variables are difficult to assess accurately due to errors and inconsistencies in the data. However, individuals in the questionnaire are asked regarding their area of residence and the damage caused to their residential properties. When asked if their house was damaged in the recent rain, 42.9 percent of the respondents reported partial loss (material or structural loss) while 54.5 percent reported no loss. 2.5 percent of the respondents reported complete destruction of the house. According to this data, the 2.5 percent respondents, who reported their homes have become unlivable due to recent rains, are from district South, district West, district Malir and district Korangi. The area identified in district South is DHA Phase –VIII, DHA Phase IV and Kharadar, in district West the area most affected and reported is Naya Nazimabad, from district Malir and Korangi are the areas of Surjani town, Goth Saleh Mohammad and Korangi.

The same was confirmed when the admin of the group “Help Us, Help Karachi”^{xvi}, Ms. Keenjhar Soomro, an employee of Bahria town, was contacted for the data collection. Ms. Soomro and her active rescue team including, Mr. Fida Ur Rehman, Mr. Usman Ghani and Mr. Rashid who were interviewed for the survey confirmed that along with above-mentioned areas, the rural areas in the city, where most of the people live in Katchi abadis were most affected. These areas included Goth Saleh Mohammad, Lines area, Malir Nadi, Madina Colony, Bismillah Town, Landhi, Yousuf Goth, Ibrahim Hyderi etc. Mr. Fida Ur Rehman, who was covering the rural area around Goth Saleh Mohammad, reported complete destruction of at least 600 housing units. These units were built in the path of Malir Nadi and the flood destroyed the livelihoods of several families in the region. These families did not only lose their homes, but they also lost the right to the land they purchased to build their homes as the government announced its anti-encroachment campaign against all the constructions that came in the way of or were built along the major nullahs. The group also confirmed that many people in the area were

dependent on livestock for their means of earning and the flood destroyed their farms where their animals were either electrocuted or drowned.

Figure 1 Type of Housing Damage

Was your house damaged in recent rain in Karachi?

517 responses

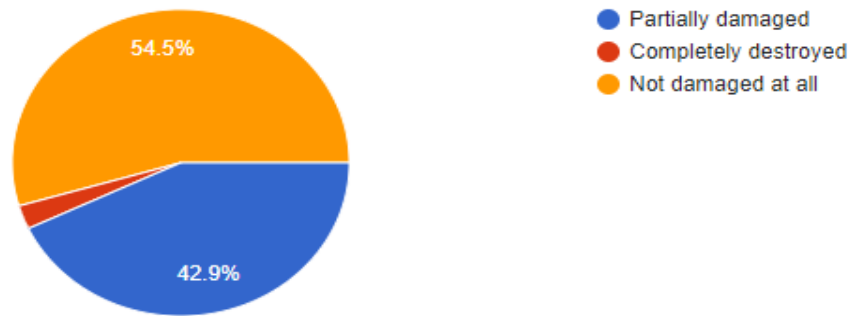
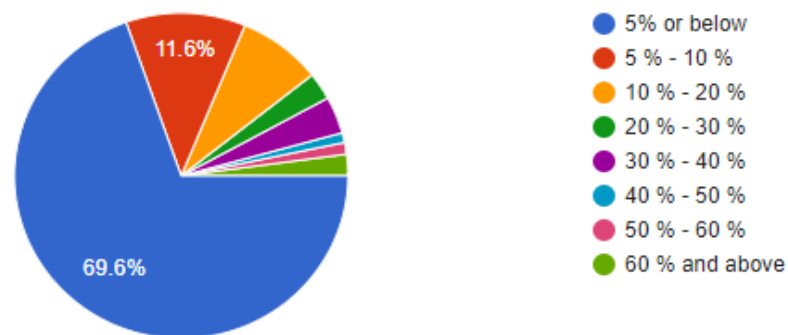


Figure 2 presents the percentage of damage to the respondents' houses in case of damage. 69.6 percent of respondents reported damage of 5 percent or below and 2.1 percent people report a damage of 60 percent and above which is the maximum percentage for housing damage recorded in the survey. The respondents who reported 60 percent and above damage to their residential property majorly come from district Malir (27.2 percent), district South (27.2 percent), and district Korangi (27.2 percent), and district West (18.1 percent). The second most damage of 50 to 60 percent is also reported in the same districts with an addition of Karachi East (33 percent), Karachi South (50 percent) and Korangi (16.6 percent). The damage of 30 to 50 percent was reported 29.1 percent by district Central, 20.8 percent by district West, 12.5 percent from district East, 12.5 percent from district Malir, 16.6 percent district South and 8.3 percent from district Korangi.

Figure 2 Percentage of damage to housing units

Percentage of damage to your house if your house was damaged.

517 responses

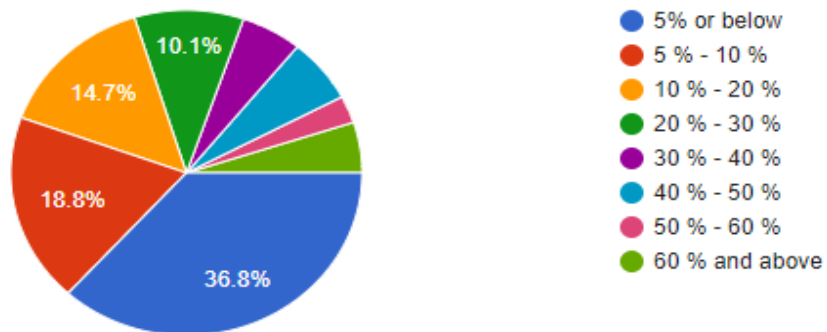


The respondents were also required to provide data for damage to other housing units (if any) in their residential area and to report the percentage of damage. Out of 517 respondents, 68.3 percent reported damage to other houses in their residential area while 31.7 percent reported no damage at all. When inquired regarding the percentage of damage to other housing units in area, 36.8 percent of the respondents submitted damage of 5 percent or below which is the least amount recorded in the survey and 5 percent respondents submitted damage of 60 percent or above which is the highest amount of damage recorded in the survey. The data for damage in terms of percentage to other housing units in the area is given in Figure 3.

Figure 3 Percentage damage to other housing units in the area

Percentage of damage to other houses in your area if they were damaged.

517 responses



Damage to Business

Karachi holds a large industrial base comprising of textile, pharmaceutical, steel and automobile sector.^{xvii} The Economic and Financial Analysis (2020) by Asian Development Bank highlighted that the share of manufacturing and trade sectors is 63% of overall employment of the city.^{xviii}

Table 1 identifies the major industrial zones in Karachi alongside the corresponding number of registered industrial units:

Table 1

Name of Industrial Zone	Total number of Industries
District Malir	647
F.B.Area	111
Korangi	558
North Karachi	95
District West (S.I.T.E)	1998
District South	6
Total	3415

Source: Sindh Environmental Protection Agency 2014

According to Mr. Jawed Bilwani, Founder – Karachi Industrial Forum, there are more than 21,000 registered industrial gas and electricity connections. A government source confirmed that there are 6500 industries registered with Sindh’s Labor Department.

According to Guyadeen, Thistlethwaite and Henstra (2019)^{xxix}, population growth, expansion of economic activities and climate change has increased the threat of flood in cities. Karachi, being no different, is also severely hit by urban flooding in recent history. In particular, the monsoon of 2020 broke main of the rainfall records and brought a heavy toll on the city. Three consecutive days of rain coupled with water clogging, cellular network failure and power outages damaged the industrial sector and livelihood of the people to such an extent that everyone will have to put in years of efforts to overcome the impact of these few days. It was a daunting nightmare to see the port city at standstill while knowing the fact that more than 55% of country’s export passes through Karachi.^{xxx} Exports of the country were badly affected as the operations at Karachi port delayed due to heavy rain.^{xxxi} A conservative estimate suggests a loss of \$449 million per day when the city comes to a halt.^{xxxii}

Media Interviews of Business Community

According to Mian Zahid Hussain, President All Karachi Industrial Alliance, the current infrastructure of the city cannot stand the heavy rain and has resulted in already weaken economy badly hit by accumulated rain and sewage water.^{xxxiii} Mr. Anis Majeed, Chairman - Karachi Wholesale Grocers Association, estimated the inventory loss of Rs. 3 to 4 billion on a single day of heavy rain. Mr. Suleman Chawla, President Site Association of Industry, confirmed absence of 75 percent labor due to rain. According to Mr. Abdullah Abid, F.B. Area Association of Trade and Industry, the industrial output of the city cut down to 50 percent due to non-availability of workers.^{xxxiv} Mr. Jawed Bilwani, Chairman - Pakistan Apparel Forum, estimated a 60 percent decline in production due to heavy damages to input material and finished goods.^{xxxv}

One-to-One Interviews with Business Community

To further understand and approximate the damages caused to the industrial sector, representatives of a number of business associations were contacted. Following table presents the approximate amount of damages reported by various business associations:

Table 2 Findings of one-to-one interviews with Business Community

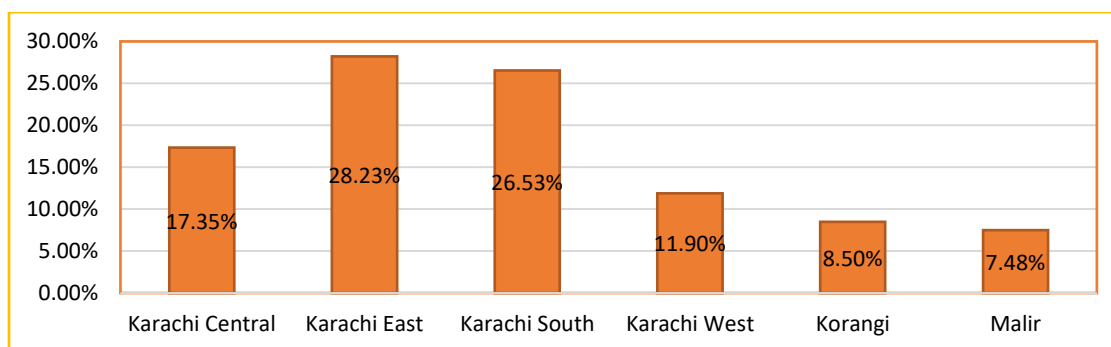
S.No.	Business Industry	Representative	Total
1.	Construction Industry	Muhammad Hassan Bakshi Former Chairman ABAD	Few projects delayed by a month but expecting a boom in near future

		Member CCOC formed by PM	
2.	Exports	Mr. Jawed Bilwani Founder – Karachi Industrial Forum	20.89% loss to overall exports
3.	Fruits & Vegetables	Haji Abdul Rauf Tanoli General Secretary Karachi Vegetable Trader Welfare Federation	More than PKR 3 billion including investments in crops
4.	Poultry	Mr. Fahad Waseem Acting Chairman Pakistan Poultry Association Southern Zone Mr. Ghulam Khalid Chief Executive Officer Orient Animal Health (Pvt) Ltd.	Layer – PKR 400 million Broiler – PKR 600 million
5.	Restaurants	Coordinator All Pakistan Restaurant Association	More than PKR 1 billion
6.	Textile	General Secretary , AMPTA	5% to 7% delayed payments

Estimation through Survey Questionnaire

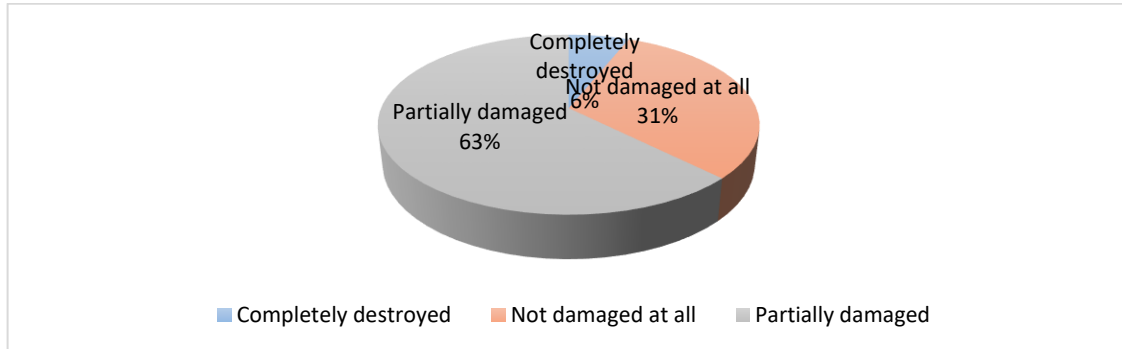
The online survey had total 517 respondents, however, not all of these individuals were employed or were involved in business activities. Overall, 294 respondents associated with different businesses participated in the questionnaire. Following figure presents District-wise data of respondents:.

Figure 4 Number of Respondents



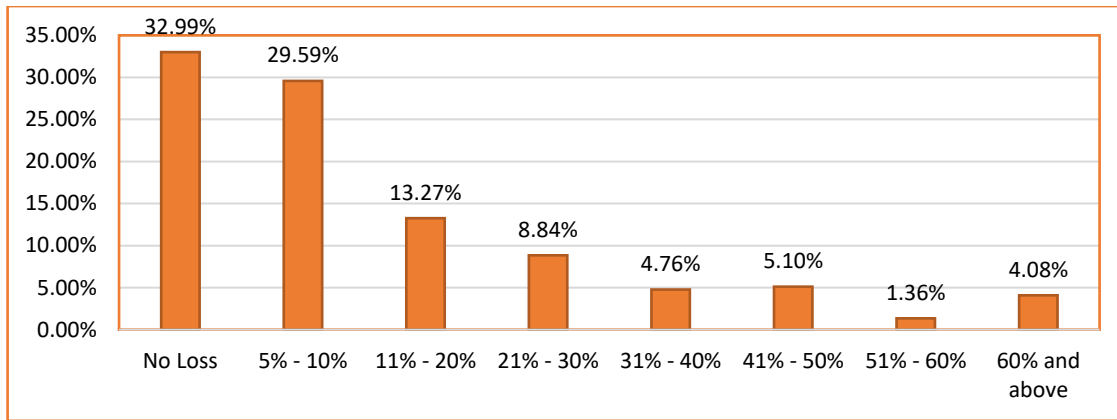
Majority (69%) of the respondents confirmed that their businesses/places of work were damaged by the flooding:

Figure 5 Damage Reported



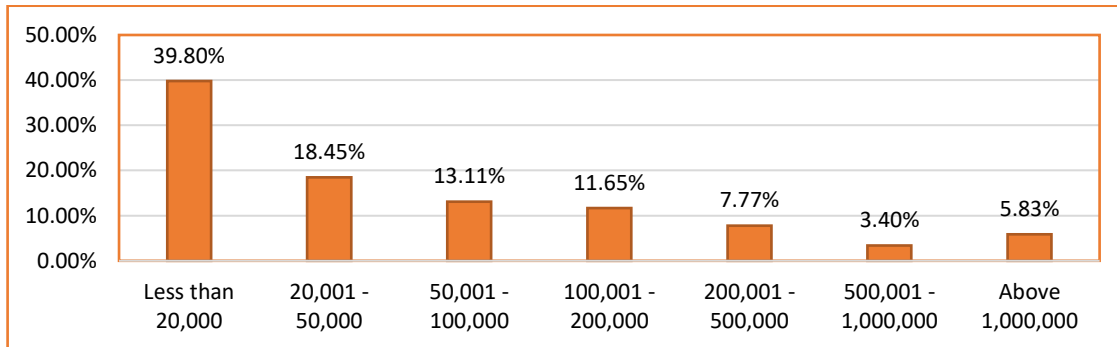
Following figure presents the extent of damage to their businesses:

Figure 6 Extent of Damages



Following figure presents the cost in terms of PKR of those who reported damages due to flood:

Figure 7 Damage in PKR



Following figure presents the loss in business/revenue due to closure / less footfall:

Figure 8 Loss due to closure/less footfall

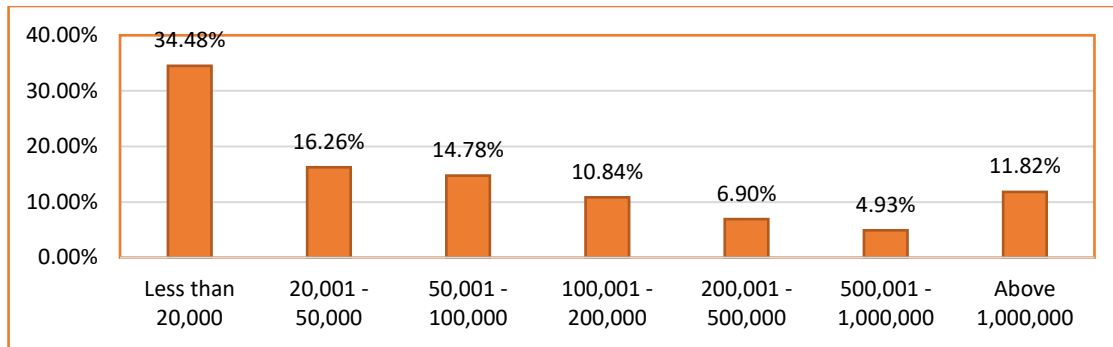


Figure 9 shows district-wise data with least (no or less than 10% damage) affected areas:

Figure 9 No or less than 10 percent damage

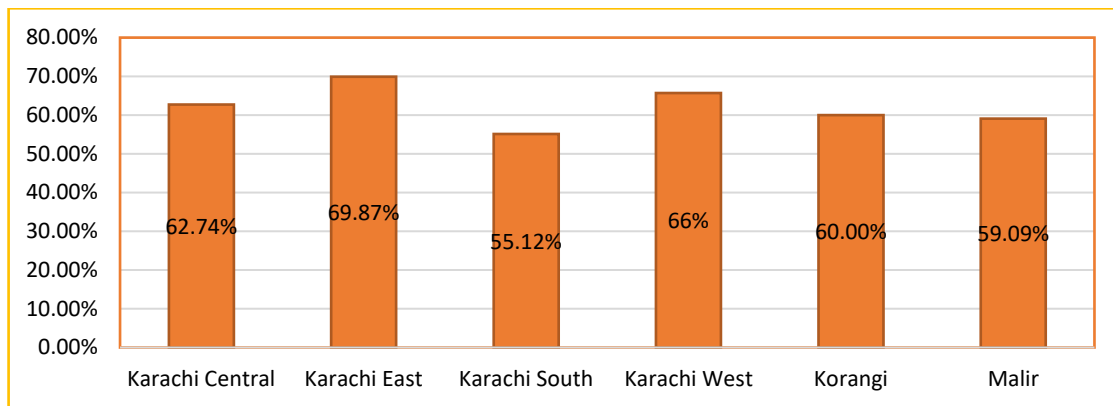
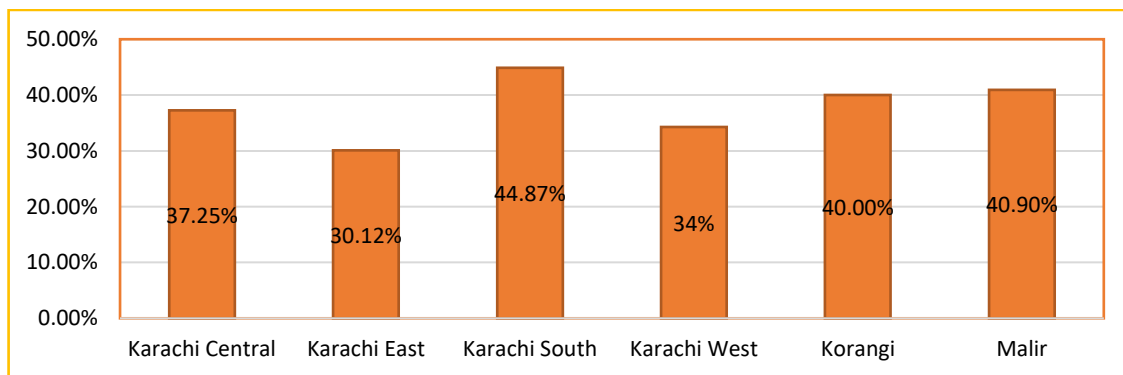


Figure 10 shows district-wise data where most (more than 10%) damages have been reported.

Figure 10 More than 10 percent damage



Both Figure 9 and Figure 10 confirm that Karachi East has been the least affected area. One possible reason could be that Karachi East is mainly residential area with few industrial sites.

It is unfortunate to state that our labor and lower class families are devastated and it will take them many months and years of efforts to overcome the loss. Labor class, most of them being daily wage earners, were most affected as 75% to 80% could not turn up for work due to the natural catastrophe that had taken place. Government of the financial capital till date has no formal record keeping mechanism of those affected by the disaster. To top this up, there is still no official body or central repository of the damage, till date has no stringent contingency plan for such chain of events. Leading organizations, such as Pakistan Business Council, should take ownership of process and maintain data for the welfare of businesses, industries and most importantly our country.

Despite the fact that affluent class were easily able to overcome, the ones below them will take longer to recover. It is alarming to see that no lesson was learnt from the events of 2010 flooding. There has been significant loss to almost all industries but their loss is recoverable as delays in orders/shipments and contracts have the provision under the clause of Acts of God. Laborers are also provided incentives, such as overtime, for working extra hours post disaster to meet the timelines. However, those business activities that involve perishable items, such as restaurants, fruits, vegetables and poultry, their loss is permanent.

However, there is a silver lining for one industry during this period i.e. construction industry. Mr. Muhammad Hassan Bakshi, Former Chairman Association of Builders and Developers (ABAD) and Member Member CCOC, foresee a boom in construction industry in very near future. The prime reason is the package announced by government for construction industry. The literature also confirms that there is rise in economic activities after such calamities due to constructions and migration of labors resulting in employment.

Damage to Public Infrastructure

Results from Survey Responses

Table 4 depicts the percentage of damage to public infrastructure including roads, schools, hospitals and public offices. According to data collected through survey, when it comes to damage to public infrastructure, district central and district Korangi are the most affected districts. The data for schools shows that Karachi East and Malir are the least affected districts while Karachi Central has been the most affected district. A higher percentage of damage to hospitals is noticed in Korangi district. Almost all of the districts have reported similar damage to roads. Public offices were most affected in district Korangi while Karachi East is the least damaged district.

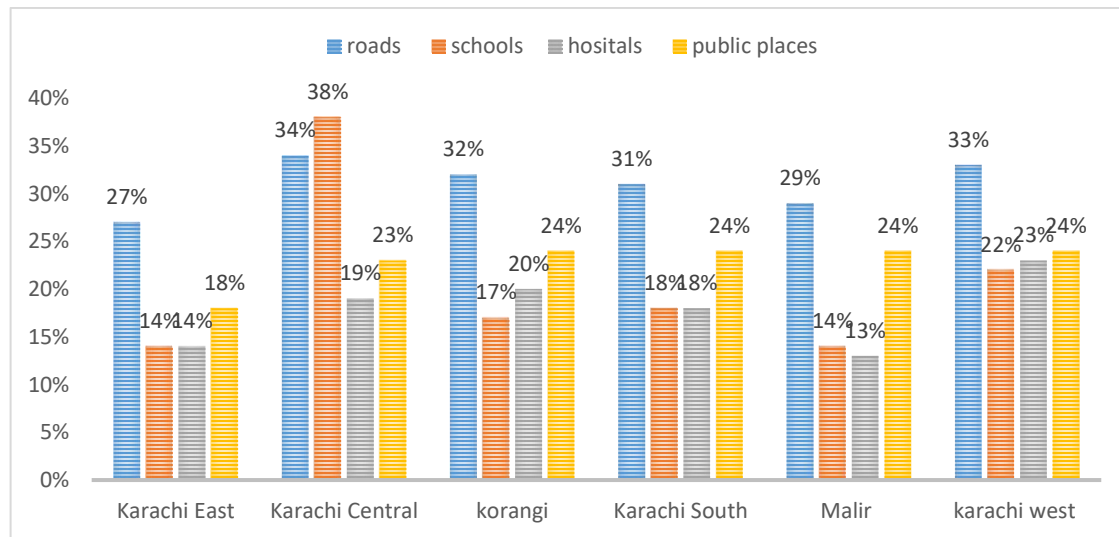
Table 3 District wise Percentage of Damage due to heavy rainfall.

Districts	Roads	Schools	Hospitals	Public Offices
Karachi East	27	14	14	18

Karachi Central	34	38	19	23
Karachi West	32	17	20	24
Karachi South	31	18	18	24
Malir	29	14	13	20
Korangi	33	22	23	30

Source 1 Calculated by author

Figure 11 Combined damage in all districts



Results from field visit and one on one interviews

Public Spaces

For more clarity of the situation of damage, the author visited different places to collect response from different public institutions. For example to confirm a damage to railway, railway authorities were contacted. Conducting interviews with railway authorities revealed that no damage was reported to rail tracks, however, trains were canceled and rescheduled. Moreover, the general store filled with expensive rail parts near Cantt station was filled with floodwater causing damage to inventory. Similar situation was seen in many public offices like airport, passport office, Sindh Secretariat, Sindh High Court etc. which were also submerged due to rainwater.

Hospitals

The recent flood also affected many public and private healthcare facilities. The field visits confirm that the rainfall has affected operations in many hospitals including Civil Hospital Karachi, Jinnah Post-graduate Medical Center, Abbasi Shaheed Hospital, Sobraj Maternity Home and the National Institute of Cardiovascular Disease. These hospitals confirmed that their 50 percent wards were dysfunctional. The reason for their damage were choked and tattered sewage lines. The renowned private hospital Agha Khan was

also flooded with rainwater. The medical superintendent of Agha Khan Hospital, Dr. Noor Khamad Soomro, reported water seepage due to blockage to the main sewerage system. Similarly, various minor medical clinics and medical stores were partially damaged due to rainwater in different places.

Schools

Schools were off due to Covid-19 hence the facts and figures about the damage to schools are limited. However, the field visits by author confirm particular damages. For instance, in Bhittaiabad near Gulstan-e- Jauhar, water overflowed into a building of private school and damages its garden and nursery floor. Similar examples of partial damage of different scales could be found all over the city.

Roads

Confirmed by news and personal visits by the author, the recent rainfall has caused many cracks on roads. According to residents of Gulstan-e-Jauhar, a wall of nullah near Rabia City collapsed, damaging the road adjacent to nullah. In addition, the overflow of water in Malir River has caused flooding near its villages. Roads and streets in Samo Goth, Sukhan Goth, Aso Goth etc., which are located in Malir district, were majorly destroyed and needed immediate attention.

Why Karachi Floods

As noted from the immense flooding of the city occurring last month and the damage it caused, confirmed in results of this survey, Karachi faces a significant threat of flooding in its entirety with changing climate patterns. The apparent reason, which is believed for Karachi's flooding, is the illegal encroachment of katchi abadis built on nullahs but the issue goes deeper than this. Karachi has gone for infrastructure neglect for decades and now is bearing the consequences. The following paragraphs identifies the key issues in urban planning and ends the report with suitable suggestion.

Drainage

Mitigating flood risk are connected to the development and improvement of urban drainage infrastructure. Karachi's storm water channels into two major waterbodies, the Lyari river and the Malir river.^{xxvi} 43 nullahs as per the Orangi Pilot Project (OPP)^{xxvii}, and 64 as per the Karachi Water and Sewerage Board (KWSB)^{xxviii}, carry the water to the sea, and more than 600 smaller channels feed into these 64 nullahs. Real estate projects have been constructed on a huge number of even smaller nullahs. One example of blocking natural drainage is Gutter Bagheechea, based on more than 1000 acres, was known as the largest urban forest in Karachi and lungs of Karachi, is now reduced to 480 acres and is covered with illegal factories, SITE area waste and tanker Mafia. Instead of strengthening the drainage in the city with increasing population, the drains are covered with more and more projects further chocking the drainage.

Solid Waste Management

Despite its large size and big population, surprisingly, Karachi has only two landfill sites. Both the sites are located in district west and in inaccessible for most of the districts in the city. For e.g. the solid waste has to be carried for 40 kilometers from district east to reach the landfills. ^{xxix}Due to the distance and time cost, the solid waste does not reach the destined landfills and ends up in informal areas including nullahs and open spaces. Proposition for addition in landfill sites have been made since 1975 and in a 2001 report, one landfill site for every district was recommended, however it was never executed.

Land Encroachments

Due to absence of proper planning and implementation of development plans and an increased pressure of commercialization, numerous bazars are built over nullahs by local government such as Urdu Bazaar and Tyre Market. Sindh Government too, for its own utilization, has built parking lots, workplaces and a MPA hostels on the nullah, and even the registry of the Supreme Court is developed on a nullah. Meanwhile the VIPs of the posh area had stretched out their homes on the natural drains and a portion of these were taken out in 2004 by requests of the then Mayor Syed Mustafa Kamal^{xxx}. Land from the sea has been reclaimed by using solid waste for building homes for all socioeconomic groups.

Administrative Issues

The capacity of Karachi's sewage treatment plant is 151 million gallons per day but due to gross under-utilization of the plant (25 million) per day, sustainability issues surface in these plants. This is one reason why the sewage continues to flow into drainage system. Architect Perveen Rehman, formal Director - Orangi Pilot Project, Research and Training Institute, properly documented the knowledge regarding the issues of drainage. This overlooking of real factors has been a trait of foreign funded infrastructure programs in the city. These programs are expensive and lack the ground knowledge for implementation. For example, ADB-funded Korangi Waste Water Management Project was \$100 million project which was 80% funded by ADB loan. After its redesign by OPP and incorporation of existing framework and modification of rates, the cost was diminished to \$26 million, leading then Governor Sindh to cancel the loan.^{xxxi}

Solution? – The local government

In a city with so many issues, it is impossible to solve all the problems at one time; hence a systematic approach of problem solving based on evidence has to be followed. Such an arrangement requires research, based on which informed decisions can be taken. It should be mandatory for the planning institutions to be competent and empowered and they should involve local communities to make the projects more inclusive. An accountable monitory and evaluation body with aim to constantly bring improvement to the system should be established.

It is time to empower the union councils in the city where citizens can take active participation for the formulation of annual development plans. As the lesson learnt, the foreign designed and funded plans are expensive and are not helpful in city planning. To manage this mega city, a successful local government association is required, which ends the fragmentation of the city into various planning jurisdictions.

The prime minister has proposed an autonomous city governance for all the major cities in the country but for a proposal like this to be approved, it needs the consensus from the different political parties. In the current political circumstances, it would be difficult to achieve a proposal like this. The transformation plan for Karachi, proposed by Prime Minister, would be difficult to achieve without the local bodies reforms; it is difficult to say it would change the city positively. It is important to empower the local talent with required resources and train them for informed decision-making backed by strong local and international evidence and supported by policy makers of the country. A relationship with activists and community leaders would need to be a significant aspect of the preparation for the development plan. If these changes are possible, Karachi can raise to establish its true potential.

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