

Environmental Policy & Urban Pollution

Case Study:

Dumping of Hazardous Industrial Waste In S.I.T.E.

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This report is based on investigations carried out by the authors for the Collective on environmental hazards in poor localities of Karachi. The investigation consisted of interviews of affected individuals and families, community profiles of affected communities, a review of media reporting, and physical inspections of accessible relevant areas. The report documents a case of alleged industrial pollution in the SITE area that led to the death of one child, and serious injuries to numerous children and adults this year. The aim of this preliminary study is to identify important lacunae in the maintenance of environmental standards, and possible areas for future policy advocacy, community mobilisation and research. The authors are grateful to Mr Nawab Ali and Mr. Noor for acting as resource persons during the research. The views expressed in this report are those of the authors alone.

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1.0 Overview Of Current Events

1.1 Introduction

The Sindh Industrial Trading Estate (henceforth SITE) was designated as an Industrial Area in 1963. S.I.T.E is one of the oldest and the largest industrial areas of Pakistan, encompassing approximately 4700 acres (19 km²) of land.¹ Home to thousands of small and medium enterprises as well as large manufacturing factories, SITE has over the years attracted a large number of migrant labourers from all over Pakistan. Migrating largely from areas in N.W.F.P. and Punjab, and also from different parts of Sindh, the workers soon established squatter settlements around the vicinity of the industrial areas. These unauthorised settlements soon evolved into complete housing colonies and have also over time gained legitimacy in the eyes of the state.

Earlier this year around January-February 2006, a factory in the SITE area of Karachi allegedly dumped hazardous chemical waste in an empty plot (F620-621) within the vicinity of SITE Town. The dumping of this waste subsequently led to several serious and minor injuries of young boys who are residents of the surrounding areas. Over a period of three months, a total of 20 such cases have been recorded where mainly children from the nearby areas have been seriously injured in the hazardous waste material. Of the injured, one child, Iftikhar, also died (28th April 2006) due to the severity of his burns, while another, Shiraz, has had both his legs amputated and has lost his fingers as well. The rest are still undergoing treatment and those with relatively more serious wounds will take several more months to heal. The family members of the injured children initially thought that their children had been burnt in the garbage set on fire by rag pickers in the area. However, later upon learning that it was actually the toxic chemical waste that had been responsible for their children's condition, they grew more concerned and willing to take action against the offenders.

¹ Wikipedia on SITE

The incident has come to light primarily after Iftikhar's death after which, at the request of the community, the media took notice of the situation. On the 4th of May 2006, a social worker from the community, Alam Zeb Tanoli, got in touch with a private T.V channel 'Geo' and apprised them of the toxic waste and resulting accidents and death. The Geo team promptly visited the locality and aired a news item on the issue; soon after which almost all the print and electronic medias were carrying this news. Only after the incident had received media publicity did the governmental agencies take notice and spring into action.

As per reports in various leading newspapers, such as the Ummat, Jang, Dawn, The News and Daily Times, Adviser to the Chief Minister Sindh for Environment, Alternate Energy and Technology Mr. Noman Saigal visited the affected area and prompted the police and Sindh Environment Protection Authority into action. The police soon recorded statements from the affected families and formally filed a report. The Managing Director of the Sindh Environmental Protection Agency (SEPA), Iqbal Saeed Khan accompanied by Deputy Director, SEPA, Ishfaq Peerzada, visited the empty plot to confirm the presence of the hazardous waste and soon after that visited the SITE Police Station to lodge a FIR (#181/06) against the unknown offenders. The cases were reported under the Qisas and Diyat Ordinances (QDO) 285, 286, 322 of the Pakistan Penal Code (PPC)². He also collected samples of the industrial waste and sent them to the Industrial Analytical Centre at the HEJ Research Institute of Chemistry, University of Karachi. The report as quoted in the newspapers, confirmed the high levels of toxicity present in the waste material and identified certain toxic chemicals that are banned in industrial processes.

Upon confirming the details of the incident, the police investigated into the matter and interrogated the owner of the plot Mr. Syed Nehal Ahmed. Syed Nehal Ahmed, however, informed them that he had leased out the plots F620 and F621 to Mr. Salman and Mr. Abdur Rehman respectively, last year. When the police went to arrest them, both these individuals had already in advance procured bail against their warrants.

² Bail Documents for Farooq Garib and Sher Khan

Additionally, on the 8th of May 2006, the police moved to arrest the owners of Garib Sons (Pvt.) Ltd., the company allegedly responsible for dumping the hazardous waste. The Director Farooq Garib and his Manager, Aslam Baig, were duly arrested from the office of SITE Ltd.; In addition to them, the contractor and owner of the dumper Sher Khan, responsible for transporting the waste to its designated site, was also arrested. After a remand for three days, all three of them were released on a bail of Rs.100,000 each.

The members of the community confirmed that Noman Saigal had ordered the immediate sealing of the factory that had been involved in this unfortunate incident. Though this was done, local residents believed that due to Farooq Garib's familial connections with a high-ranking military official, the factory was almost immediately reopened.

The Human Rights Commission of Pakistan (HRCP) also launched an investigation into the matter and has demanded the immediate arrest of those responsible for this transgression. While initially, the FIR had been lodged under the names of Iftikhar, Shiraz, Naveed and Gul Siddiq, as being affected by the waste; HRCP ensured that the names of the other 20 children injured, be also included as part of the FIR.

In response to these events, a team of social activists in the area mainly, Qazi Khizr, Khalid Shah, Nawab Ali and Noor along with a few others started to investigate the issue and visiting the homes of the affected families. In a meeting organised by the HRCP they, with the consent of the affected families and community members, managed to form the 'Saneha SITE Action Committee' (SSAC). The purpose of such a committee was to channel all subsequent legal action through one platform and to provide a unified front in dealing with the offenders.

The SITE Association, composed largely of the leading industrialists in SITE, came forward, after the media reports, to help the affected families. Through a mutual understanding Mr. Amin Bandukda, the Chairman of the SITE Association offered financial help to the affected families. It was made clear that this mode of financial help

was not a compensation settlement, rather a humanitarian gesture from the SITE Association. Except for Iftikhar's father who refused to take the money, cheques ranging from Rs.50,000 to Rs.10,000 were disbursed amongst the affected families; this was done with the help of SSAC.

Iftikhar's father and other concerned families on the whole have been disappointed with the reaction of the state towards their plight. Their contention is that no state agency or official bothered to provide any help while their children were still in the hospital. It was only in reaction to Iftikhar's death and the publicity that the incident got in the media did they bother to visit and offer any help. However, as yet there has been no official monetary help provided by the state. Newspapers have carried claims made by city government and provincial government officials that the affected families would be provided relief; the families have neither seen nor heard anything of it so far. Several families that have been embroiled in this affair are reluctant and afraid of taking any concrete legal action. They stated that they were heavily financially burdened and on top of that, most of their time is spent in nursing their children; taking them to the hospital or clinic and back. Additionally, they have little faith in the legal process and feel that they will not stand a chance against the larger industrialists who might drag this case for a longer time period. While many have agreed to partake in the case for the removal of the waste, many are reluctant to lodge a damages case. The inhibition to launch a damages case is primarily due to the lawyer and court fees that they will need to pay; in addition to this, the fear of being suppressed by the larger industrialists also persists.

For the time being, the factory owners have dumped mud over the hazardous toxic waste to cover it up and hide it. The plot has been cordoned off by building a wall along one of its side; there, however, is no gate at the entrance to restrict any movement. While initially a police officer had been placed to keep a check, he was promptly removed once the wall had been built.

1.2 Geographical Details of the Waste Site

The plots F620-621, measuring an approximate total of 2 acres, are located on a hilly area on the border of SITE Town. There is a 100 feet wide road that divides the plot from the adjacent locality of Sarhad Mohalla No.4, UC-8 Rashidabad of Baldia Town. Sarhad Mohalla No.4 is placed on a mound of hill opposite the aforementioned plot and its base is completely strewn with rubbish and waste that has been dumped there for several years. This waste on the slope of Sarhad Mohalla No.4 is also set on fire, and can be a potential hazard to the houses living directly over it as well as the community at large.

Completely barren, the plot is largely filled with mud, with disparate dumping of other scrap materials (marble chips, broken glass, concrete waste etc.). Interviews with the chowkidar on the adjacent plot as well as residents of the community, it was learnt that the dumping by factories was a regular feature on the plot. However, it was the first time that such a toxic and harmful substance had been dumped there. Interspersed among the boulders and rocks, there are patches of ash left behind, possibly from the general factory waste being burnt. It is apparent, from examining the site, that certain areas have been filled up and levelled recently; possibly the areas that contained the toxic waste. From interviews with members of the community, it was also learnt that the toxic waste was not just dumped in one location, but on several areas of the plot. Placed on a hill, the plot is a short cut route both to the factories main road located just below it; this in addition to others has been the main reason for several injuries. Adjacent to these plots is another plot, which only recently has started construction on it. While F-620 and 621 do not have a *chowkidar* to keep guard, the *chowkidar* for the adjacent plot, Lal Bahadur, keeps a watchful eye. This, however, would no longer be possible once the boundary wall construction of the adjacent plot has been completed.

Since previously the plot was completely open, with unrestricted access, it was commonly used as a playground by the children of the nearby area. There are no parks or recreational grounds in this area except for one, which is situated at a distance and less commonly used by the younger children; this again has also been the cause for several of the injuries.

1.3 Important Stakeholders And Their Involvement:

SITE Association:

SITE Association, an organisation composed largely of industrialists in the SITE area is a powerful and well-established organisation. Its members are well connected with the different organs of the state and they are responsible for ensuring the smooth operation of industries in the area. The current Chairman of the SITE Association is Mr. Amin Bandukda, also the owner of Al-Amin Denim Mills (Pvt.) Ltd. As representative of the SITE Association, Amin Bandukda visited the affected families to offer his condolences. On behalf of SITE, he also distributed cheques of varying amount to the affected families. Besides this, it was later learnt that SITE Association also subsidised the hospital expenditures of some of the injured children. For instance, in the case of Faysal, they deposited a fixed amount with the Patel Hospital for his treatment (approx. Rs.175,000).

On another front, the SITE Association has strongly condemned the arrest of Farooq Garib. According to reports in the newspapers, the SITE Association stated that the police should apprehend the contractor who is responsible for dumping the waste there and not the factory owner who had entrusted the contractor with the responsibility. The arrest of Farooq Garib, a respected and established industrialist, it stated would negatively affect the investment climate and diminish investor confidence.

SITE Ltd.:

SITE Ltd. is a government owned and operated agency working in the SITE area. Its responsibility largely lies in managing the basic infrastructure as well dealing with the lease and ownership of the plots in SITE. In this incident, the community members also hold SITE Ltd. responsible for negligent behaviour. They feel that SITE Ltd. has not done enough to control the dumping of industrial waste in different areas in SITE. SITE Ltd. on the other hands feels that it is SITE Association, which is more capacitated to influence the industries and bring about a change in this regard.

Garib Sons (Pvt.) Ltd.:

Garib Sons (Pvt.) Ltd. are one of the established industrial houses in Pakistan, operating a wide range of industries. They are one of the largest manufacturers of chipboard, medium density fiberboards, and doorskins in Pakistan. They also deal in exporting rice, wheat and sesame seeds and also operate a shipping agency under the same name. Earlier this year they also started production of insecticides and pesticides under the brand name of 'Trap' (phenyls, mosquito coils, air fresheners, etc.)³. Under the Chairmanship of Mr. Farooq Garib, Garib Sons have been held responsible, by members of the affected community, for dumping the hazardous toxic waste material on the empty plot in SITE. While their Head Office is situated in Phase II, DHA, Karachi, they have several mills running in different areas.

Milling Operations:⁴

E/23 S.I.T.E., 75700, KARACHI, SIND, PAKISTAN

B/69 S.I.T.E., 75700, KARACHI, SIND, PAKISTAN

D36-D43 PORT QASIM, KARACHI, SIND, PAKISTAN

17KM, SHEIKHUPURA, PUNJAB, PAKISTAN

6KM, JHANG, PUNJAB, PAKISTAN

SHAFIABAD, GHARO, PAKISTAN

Currently, Farooq Garib has been discharged on bail. While according to certain newspaper reports, Garib Sons has acknowledged that the waste originated from their factories, in other reports they refute any such allegations. The members of the affected community, however, strongly hold them responsible for the accidents and injuries, and claim that the waste did originate from their factory situated at a distance of less than 2 km from the empty plot (F620-621). The affectees claim that information obtained from labourers employed at Garib Sons confirms their allegations that toxic raw materials were being used.

³ <http://www.garibsons.com/insect.htm>

⁴ <http://www.garibsons.com/office.htm>

2.0 Community Profile

Several aspects of the community contribute to our understanding of the families, their interaction with various state and non-state institutions and dynamics within the community itself. These include details of historical development and origins, service delivery, and employment and income profiles. For the purpose of our study, initially details of the colony or mohalla are described in terms of geographic location and history. A demographic and income profile is given in terms of the industries that the labourers work in. We have also tried to include the basic details of services (gas, electricity and water; schools and hospitals) wherever possible. Finally, based on the respondent's interviews, a picture of dynamics within the community and with external government and non-government institutions is provided.

2.1 Different localities that were affected by the incident.

Labour Square:

UC-4, SITE Town. There are 1500-2000 houses; mostly labourers in the area. They are mostly Pathan families, followed by Punjabi, Urdu speaking, Hazarites, and a few Sindhi families as well. One child was affected from this area.

New Labour Colony:

There are around 400 Households. The ethnic composition is the same as above. The houses were given out by the Workers Welfare Fund (under the Worker Welfare Board, Sindh). No children were reported as being affected from this colony, although it is very close to the dumpsite.

Gulshan-e-Labour:

There are around 540 households (9 lanes with approx. 60 houses per lane). The ethnic ratio the same as in the previous areas. The area is not entirely residential: there are quite

a few warehouses and workshop in the area. No children were reported as being affected from this colony, despite its proximity to the dumpsite.

Sarhad Mohalla:

UC-8, Rashidabad Colony, Baldia Town. The families here are mostly Pathan, and almost all are from Swat. There are very few Afghans (around 1%-2%). It also happens to be the oldest settlement in the area. Most of the children that were affected were from this area.

Abidabad:

Part of UC-1, Baldia town. Most families are from Hazara, followed by Pathans, Punjabis, Sindhis and Urdu speaking households.

Zia Colony:

UC-1, part of Orangi Town. It is separated from Abidabad by a single narrow street.

Shah Mohalla

Faqir Colony, Orangi Town. One child was affected from here.

Faqir Colony

Abidabad. One child was affected from here.

2.2 Spatial analysis with respect to the waste site.

The guard on duty at the adjacent plot, provided information regarding the plots and its maintenance. His name is Lal Bahadur, and he is around 70 years old. He identified himself as an Afridi from Kohat and presently lives in Baloch Mohalla in Rashidabad.

Lal Bahadur joined in June and is actually the *chowkidar* (guard) for the plot adjacent to the dump site. When the incident happened he was in his hometown, rebuilding his house after the earthquake. There used to be a chowkidar on the 620-621 plots, but he had not been paid for the last 6 months so he left. Lal Bahadur's current pay is Rs.4000, and he is there 24 hours. He stops children from going in the area and has also been advised by his employer to do the same. According to him, it has been a 1 and half months since the waste has been covered up with mud and bricks.

The dumpsite is a 2-acre plot some 2.5 km away from the Gharib Son's factory. It is directly opposite the lane from the back entrance to Sarhad Mohallah, UC8, Baldia Town. There is a madrassah (Faarooq-e-Azam) in the same block. About half a kilometre east of the plot are residential areas composed of UC-1, Zia Colony, Orangi Town and UC-1, Abidabad, Baldia Town. The two are separated only by a narrow 40-foot gully. Residential areas to the south comprise of UC-8, Rashidabad, Baldia Town and Labor Square. To the north, at the end of Abidabad, is Faqir Colony and to the west, on the other side of Sarhad mohalla, lies Shah Mohalla.

2.3 Community and household details of some of the affected families.

Sarhad Mohallah

Nazim: Salman Khan (Baloch)

Naib Nazim: Imran (Urdu speaking)

The name of the colony is attributable to the fact that most of the people living here are from the 'Sarhad' (North-West Frontier Province). The area was a relatively cheaper option for the workers who had already migrated to Karachi in the past. They are therefore not new settlers, but have moved here from different areas of the city.

Sarhad Mohalla lies inside the area of Rashidabad. There are 4 different mohallas within Sarhad Mohalla (Sarhad Mohalla #1, #2, #3, and #4). The cases were reported, and therefore the focus group and individual household interviews were conducted, in Sarhad Mohalla #4 (SM #4). SM #4 has around 1000 houses: 60% Pashtoon, 20% Punjabi, 10% Sindhi, and 10% others (Baloch, Mohajir, Afghans, areas near the China border, Bengalis and Biharis).

The area was not very developed initially and was more of a mountainous terrain, with the threat of wild animals. Electricity was provided to the area around 15-20 years back. Water was available initially in the lines, but for the last 10 years the lines have been inoperative. Ranger's tankers come to the area and the residents have to buy the water. People have built their own water tanks also. Water costs around Rs1-2 per gallon (usually rationed out in jerry cans). The residents on the other side of Kala Khan Chowk, however, have access to water in the lines. Haji Akhtar Abbas (a Punjabi), the Nazim of Rashidabad, pushed to get the water lines operating and even got the area dug up. They however, did not get upto Sarhad Mohalla. Gas was provided for during the Benazir period (mid-90's).

The area has been sanctioned for leasing, but only those who could afford to have gotten the lease for the houses. The residents stated no problems in getting areas sanctioned for leases if you have the right contacts.

There is no proper school system in the area. There is one small private school that operates here and charges fees of Rs.100. No government help was reported in this regard. There are also 2 *madressahs* operating here.

Most of the people in the area are factory workers: 70% in private jobs as mill workers, in garments, looms etc; 10% working in transport; 5% working in SUI Gas Company and the rest are daily wageworkers.

There are no Councillors from SM#4. People approach the Councillor Shafiq in Kohati Mohalla (in Rashidabad) with their problems; there are no lady councillors here either.

People here normally vote independently. In the past they normally went with the mohalla leader, but things have changed now. Gul Mohammad, a resident of SM #4, is an unofficial leader. In lieu of recent events the people however, are presently not happy with him, and want someone who can better handle their problems and pursue their cases. They are reluctant to take their problems to the police station and avoid doing so.

Regarding communal funds, people in the community have been deceived in the past, so there is a lack of trust in the system. Smaller groups solve problems on their own and the larger community is not involved; within a group, the better off contribute more. Committees do not really operate here anymore and they have mostly been disbanded.

After the incident of chemical burning, the families in general are bitter about the government officials as they were of no real help. According to Jahanzada, the community used the local masjid as a focal point for creating awareness about the chemical waste and to prevent any more accidents from occurring. However, according to

Akbar Zada's wife, although the brothers were injured after other children in their area had already been injured, they had not heard about any warnings from other affected households. Neither did he hear any announcements in the mosque warning about the waste. Clearly, Jahanzada's efforts did not manage to prevent other burning incidents in the community. It is also unclear as to when the announcement was made.

Some information regarding community interaction were offered by Hazrat Ali's family. His father's sister (*phuppi*) claimed not to have known about any burning incident prior to her son's accident in March. This could equally reflect on the limited knowledge of women in this community outside their immediate families, which will be taken up in detail later. However the chemical also affected another close male relative: he too was equally uninformed as to the previous incidents of burning (such as Jahanzada's son). According to Hazrat Ali's family, no one from the community came and visited the affectee, nor did they visit any of the affectees. Clan/ kinship tends to be a major deciding factor in communication between families- for example, Hazrat Ali's family identifies itself as Kwazkheli, and knows very little about the other children, although most are from the same region i.e. Swat. They claimed not to know their neighbours very well, and didn't know where they were from.

Household Profiles

1. Akbar Zada (22y) and Wahid Zada (30y), brothers

Both brothers work for the Union Company; they do loading work. Both have studied till 8th grade. Wahid zada and his wife (Raiyya) have 3 children (8, 6 and 3 years) and Akbar Zada and Rabia were recently married. They live with two other brothers and their parents.

2. Hazrat Ali s/o Alam Khan and Hadayat

Hazrat Ali is the eldest of 4 brothers and 2 sisters, and is 12 years old. He studied at a private school (class 3) and also attended a madrassah. Due to the high fees of the private school and the lack of a government school nearby, the parents cannot afford

to educate any of the other children. 3 of the younger boys attend madrassahs, the girls (two and three years) are still too young to study.

3. Asad (13y), s/o Jahanzada (31y). Pashtoon, identified himself as a Yusufzai. Jahanzada is a warehouse owner and has studied till B.A. (final year). Asad studies in a private school, 6th grade. Jahanzada has been a resident of Sarhad Mohalla for last 25 years.

Zia Colony

The community profile for Zia Colony was provided by two respondents: Haji Burki, an ex-councillor, and Khwaj Muhammad, the father of Iftekhhar, the child who died due to the chemical burns.

Khwaj Mohommad's family is from Mansehra, and belongs to the Tanuli *qaum*. They have been living in this area for the last 12-13 years. According to him, they were one of the first people to set up their houses here. Initially they were illegal squatters, however they were strong enough to resist being evicted by the SITE authority.

As reported by Haji Burki, the entire UC is about 1 lakh people; the abadi was completed in 1991. Haji Burki was also indignant at the authorities' allegation that they were illegal squatters. According to him, the area "is a regular *katchi abadi*, almost 50% of the plots have been leased; SITE Ltd has no right to call it an encroachment. By law, factories cannot do anything to harm their neighbours."

Haji Burki reported that the households in the mohallah were mostly from the Hazara region. The mohalla next to it had mostly Biharis. While he reported only one government primary school in the area, the abadi next to theirs has a primary and girls middle school.

Haji Burki was not confident about the ability of the community to mobilize. According to him, "...people in the mohallah try to ally themselves with the factory owners, and work against each other. They don't trust anyone; people don't interact with each other

without incentive for personal gains. Every mohalla has a committee, which serves as a *panchayat* with usually 5 or 6 people. As people grow richer, they started to cut ties. When we first came here, there used to be more harmony. Now, as the population has increased, the presence of the political parties system has set in and informal ties have ended with party affiliations. There was also fallout with the Nazim; he took the money and disappeared without doing any work for the community.” Regarding collective action, he was of the opinion that workers don’t have that much commitment themselves, and they doubt others’ commitment too.

Haji Burki runs a water storage facility for Zia Colony. Water provision in this area is therefore better than in others. He also seems to have enough authority in the area to ensure that the residents are safeguarded from the spillover pollution of nearby factories (he gave the example of having a boiler relocated, and having a generator soundproofed).

Family Profile

The only affectee in this colony was Iftekhhar, the child who died due to burns. There is limited information on the family, however they seem relatively better off than most others in the area. The father is a Suzuki driver and had plans of working in the US. As reported by a cousin (Naheed, 16), Iftekhhar’s family consists of his mother, Fatima, his father, Khwaj Mohommad, his brothers Shezad (22), Arshad (20), Waqas (16), Ali Mohommad (10) and Usman (5) and his sister Samina (8).

Abidabad

The community profile is provided by two of the affectee’s families: Naveed and Sheraz. In both circumstances, the mothers provided much of the information.

According to Sakina (Naveed’s mother) and Jamila (Sheraz’s mother), the community was mostly composed of Hazarites, with a few Pathan families.

The families of the victims knew each other prior to the incident, because their boys played and studied together. Sheraz and Iftekhhar lived opposite each other (a street

divides Zia Colony from Abidabad) and Naveed lives one street away. Sheraz's father was interviewed at Iftekhar's residence. Since the incident, the families have come closer together, both incidentally and because of the activities of the Action Committee to mobilize collective action.

According to Jamila, people from Hazara will interact with others from the same village (even if they are not related), but not as much with other neighbours. Their *phuppi* (Ali Zaman's sister) lives next door. There are some Punjabis, but they live further away. This area has mostly people from Hazara. There are no councillors from the immediate neighbourhood, says Jamila. But the local Nazim, Dr. Iqbal, is a Hazarite and so is the Naib Nazim, M. Ashraf. They do not help the people much, despite the fact that they are the same kinship group. One councillor, Munawar Hussain (aka Kala Khan) is not well liked at all.

For the residents of the first gully in Abidabad, water is a major problem. The Rangers tanker provides 1000 gallons every month. After winning the votes, the councillor told the people of this gully that they should take their water from Zia Colony, that the water tanker for Abidabad would not be available to them. All 70 houses from that gully were told to do so. The councillor did not visit the family after the incident. Only when Geo arrived did the councillor make a big show of coming and offering condolences.

Family Profiles

1. Sheraz (9y), s/o Jamila w/o Haji Ali Sarwar (44y)

Haji Sarwar is a water tanker driver and has studied up till middle school. He works at the night shift and is usually at home during the day. Shehraz studies in a government school and also attends a madrassah. His eldest sister is 20 and presumably married, his sister Fehmida is 18 and has studied up to class 10. His brother Shehzad, 14, is enrolled in class 9, another brother, 13, is also studying and the youngest sibling, Saima, 10, is enrolled in class 5. Origin/ Caste: Darban, Mansehra. / Tanauli. Residents of Abidabad since 1986.

2. Naveed Shezad (10y), s/o Sakina w/o Ali Zaman

Naveed is their only child; he goes to school and the Madrasah (Farooq-e-Azam). He is in class 3 at school. They are from Hazara and have been living here for 20 years. The father works in a textile factory.

2.4 Collective action within the communities

According to Jehanzada (Sarhad Moholla) and Khwaj Mohommad (Zia colony), any existing committees formed between the community members are usually restricted to funeral arrangements, and there were no reports of an exiting committee having come forward to take up the issue. As the accidents occurred, there was limited mobilisation within the community itself. The role of committees, which served the purpose of meeting unforeseen eventualities, did not materialise in this case. The committees as was learnt, were mostly disbanded due to lack of trust between its members.

Even information and awareness of the toxic waste was limited and not widespread when the first accident occurred. It was when the event received the requisite press attention did the community realise what was going on and who was responsible. For instance, in Sarhad Mohalla, where most of the injuries were reported, details of the waste were announced in the local mosque; this however, did not prevent future injuries from happening nor did it initiate any collective voice against the offenders.

Initially, the parents of the injured children were not too eager to do anything about this because most of their time was spent nursing their children, many of whom are still in the hospital. The community members are generally afraid of the police, afraid of going to the courts, and afraid of the big industrialists. However, they gained some confidence to protest after one child lost his life; the outcome of which was the SSAC.

Once the Geo team had come in (Akhtar Shahid Rind) they prepared a very comprehensive report on the events that had unfolded and the people of the area started to align their hopes for justice on the press and media persons. Given the involvement of the action committee and the media, the police did not neglect the issues that were being pressed for by the families. They even got individual accounts from all the affected families about the incident and the peripheral details surrounding it.

While currently the Action Committee is currently trying to encourage all the affected parties to lodge damages cases, the families are pressed for finances to support any such move. The event already has disrupted their lives and their income streams, and with the initial lack of interest shown by the state and non-state agencies towards their cause, they are not very optimistic of any beneficial outcome. This understanding has limited the capacity of the SSAC from initiating a large-scale action against the offenders. However, some families have come forward and are willing to be part of the larger movement and ensuring that their rights are delivered. The SSAC at the moment is the most defined and structured collective action that the people from different communities are involved in. The involvement of the affected families and important members from the community has allowed it to gain importance with respect to the other concerned governmental and non-governmental agencies as well.

2.5 Gender information asymmetry

Women, on the whole, seem to have extremely limited interaction with people outside their households. In most households interviewed in Sarhad Mohalla, the women had very little information regarding the injury or its treatment. None had visited the hospital with the affectees; where the child was a victim, the father or an older brother tended to take them for treatment.

Language tended to be a major barrier when speaking to older women. The mother of one of the affectees, Shahid s/o Zahir, was unable to speak any Urdu at all. It was therefore not possible to interview her, as the only people who could translate from Pushto to Urdu were non-related men whom she would not have been as comfortable speaking to.

In Abidabad, the women seemed slightly more aware of the problems and the political interactions within the community. Sheraz's sister was the one who had spoken to the press, and she had been in the hospital throughout the procedure and continues to stay with the affectee there.

Girls' education tends to be discontinued at an earlier stage: Haji Burki reported that his girls had studied up to class 8. Sheraz's sister had discontinued her education after class 10. None of the women reported being employed. Few of them knew the details of compensation, interaction with councillors, doctors and state institutions. They were also not very clear on the ages and education levels of their children, at times. Purdah is very strictly observed in all the mohallas visited, and women report extremely limited visits within the neighbourhood, mostly to close relatives (sister, sister-in-law) and even fewer to non-related households.

3.0 Health and Environmental Concerns

3.1 Injured/ Affected Children

Appendix of Children's Status.

3.2 Details of treatment

Dr. Soofia, a senior Surgeon at the Burns Ward at NICH, provided the details of medical treatment. According to her, most of the patients came after first aid had already been administered to them (indicating that the first-aid administrators would have more knowledge about the chemical than the doctors at NICH).

“These local clinics treated the wounds before we had a chance to look at the immediate damage. The doctors at NICH were therefore dealing with burnt tissue, just like in any other incident of burning. The patients usually came in 6-10 hours after this. In the past, there have been several cases of burning at industrial sites, this one just happened to catch the media's attention.”⁵

According to Dr. Soofia, the burns were very deep. This could have been either due to the duration of contact with the chemical or the concentration of the chemical compound. Dr. Soofia suspected both in the case of her patients. Iftekhar went into shock and he had very deep burns. According to the doctor, he never really came out of shock and died soon after he was admitted. Sheraz had to undergo amputation of both his legs and has been extremely traumatized since the incident. He came in with dead tissue and his fingers started to autoamputate due to the extent of the burn. He also underwent grafting where the leg had been amputated.

Sarbaz Khan, another child affected in the waste, was able to obtain treatment at the Shifa Hospital since his father is employed at the Navy dockyard. Despite this support, his family has had to bear the expense of medicines. Though recovering, Sarbaz is currently unable to walk and the skin on both his hands and legs is still severely scarred.

⁵ Interview with Dr. Soofia, Surgeon, Burns Ward, NICH.

It was observed in most cases, that the families were not aware as to how to treat the burn. While initially assuming that their child had been burnt in the burning rubbish, they did not imagine the severity of the case. While some sought basic medical help at the local clinics, it was only later that they learnt the cause and nature of the burn.

The children's families were helped financially by the hospital's Zakat fund, and a few private donors⁶, for the purchase of medicines. The discharged patients have been told to follow physiotherapy, and should be all right. However some, like Sheraz, are still undergoing severe psychological trauma.

3.3 Environmental Concerns for the Community

3.3.1 Chemical report details

Details of the Waste:

While the SEPA collected and dispatched samples of the hazardous waste for laboratory analysis of its contents, a detailed report has as yet not been made publicly available. From preliminary reports published in the newspaper, an overview of certain chemicals present in the waste has been ascertained.

Reports from the Industrial Analytical Centre at the HEJ Research Institute of Chemistry at the University of Karachi, indicate the presence of compounds like: phosphorus pentoxide, aromatic and vinyl alcohols, magnesium hydroxide, aluminium silicate, and calcium sulphate. While the toxicity of some of these chemicals may not be very high, Phosphorus Pentoxide is classified as a dangerous and toxic chemical. Additionally, some forms of aromatic and vinyl alcohols can be potentially very harmful as well.

Phosphorus Pentoxide (PP): As per details obtained from the MSDS⁷ for this product, PP is highly dangerous and corrosive causing burns to any area of skin contact. It is highly reactive to moisture, and can rapidly decompose to form Phosphoric Acid (similar in

⁶ SITE Association, and some other industrialists, have extended help to some of the families affected by the incident.

⁷ Material Safety Data Sheet

intensity as Sulphuric or Hydrochloric Acid). Contact with the skin can cause severe irritation, burns, redness, and pain. Burns usually penetrate the skin with sharply defined edges, and heal slowly with the formation of scar tissue.⁸ PP is a usual material and reagent in chemical industry; this product is widely used in pesticides⁹, medicine, coating auxiliaries, printing and dyeing auxiliaries¹⁰.

Aromatic Alcohols (Phenols): Aromatic alcohols also classified as Phenols. The largest single use of phenol is as an intermediate in the production of phenolic resins, which are low-cost, versatile, thermoset resins used in the plywood adhesive, construction, automotive, and appliance industries¹¹; It also used as a disinfectant in certain industries. If in contact with the skin, phenol is easily absorbed through it and this can cause severe burns.

3.3.2. Other Environmental Concerns

Dumping of industrial waste is a common phenomenon in SITE and the areas surrounding it. It is common to find vacant open plots with pile and pile of garbage dumped on it. The waste ranges from rags from textile and garment factories to paper and other waste products. Sewerage waste once cleaned from the drains is also left out in the open air on the roadsides. The empty plots full of waste, as reported by the community members, invite rag pickers. In some cases, while searching for metallic waste, some rag pickers (Afghani as reported in one case), burn the waste to collect the metallic objects left behind. This in the past has resulted in children getting burnt while playing or passing through a vacant plot. Additionally, one such plot near Gulshan-e-Labour is situated right next to the housing colony; any fire lit on this plot would not take very long to spread to the adjacent residential area. While in some cases the community members have tried to control the dumping, they have not received any help from either SITE Ltd. or the local police. Industrial effluence has become a part of the landscape and the children play in it and breathe in its toxics on a daily basis. Prolonged exposure to even non-toxic compounds can in certain cases result in health problems.

⁸ <http://www.jtbaker.com/msds/englishhtml/p4116.htm>

⁹ http://www.scorecard.org/chemical-profiles/pesticides.tcl?edf_substance_id=1314%2d56%2d3

¹⁰ http://expo.chemindex.com/en/company/14681/product_en/393730.html

¹¹ <http://www.npi.gov.au/database/substance-info/profiles/70.html>

4.0 Problems of Access and Issues in the System

4.1 Responses:

Initial Emergency Health Response:

After each of the accidents occurred, the children were either rushed to the nearby general physician (local clinic) or provided basic treatment at home first, before being shifted to a hospital. The immediate response was from the male members of the concerned families and they did not fully comprehend the nature of the toxic burn. Assuming that the burn was caused by the burning garbage, the response was to take the child to the community doctor. Once they realised the severity and nature of the burn, the children shifted to nearby hospitals, where they were treated accordingly.

Interaction with Authorities:

Having understood and dealt with the children's medical requirements, the second step in line with the accident was to inform the authorities; in this case the area police. This did not prove to be very helpful, as the area police did not register any complaints/ report, contesting that it was not in their jurisdiction to do so and directing the family to another police station. It was also learnt that some families did not even bother to approach the local authorities convinced that they would not be helpful and would land them in more trouble. In the period after the accidents, there was also the rumour that the families should not approach the police station if they wanted to receive compensation for their children.

Involvement of the Media and Its Impact:

Subsequent to these developments and the series of accidents, on the request of a community member, a local television channel decided to telecast a brief documentary on the accidents and the nature of the industrial waste. This in addition to frequent articles in the local newspapers created a stir amongst the local authorities. The EPA (Sindh) and Provincial government officials arrived on the scene on the 4th/May/2006 at 11:30 p.m.

and prompted the necessary police FIR to be registered against the unknown offenders. They directed the requisite agencies to collect samples of the waste and to have it analysed to ascertain its components. The government officials promised the affected families that they would try and resolve the matter and apprehend the offenders as fast as possible. In statements issued by Noman Saigal, he claimed that the government is not under any pressure to arrest the offenders and to resolve the situation. However, some members of the community state that Noman Saigal while visiting them stated that he required a “free hand” to deal with the industrialists and that he was under a lot of pressure.

It was Noman Saigal’s belief that it was unfair to ask the government for compensation since it was the industrialists who were at fault and refused to comply with environmental laws. Director EPA (Sindh), Dr. Iqbal Saeed Khan added that both old and new factory owners refused to cooperate and ignored the needs for environmental assessments. He also ordered for the environmental audit of all factories and a fine of Rs.300,000 for those who violate the Environmental Protection Act 13, 14, 15, 16 and 17, as well as the right to seal those factories that refuse to comply. The effective implementation of any such claims is open to doubt, and the community members who were initially hopeful of the media’s involvement and the government’s interest, lost that hope very soon.

Community Mobilisation:

The affected family members have had a difficult time in pursuing both the medical needs of their children and acquiring legal and financial help. The fact that 8 accidents occurred in one mohalla (Sarhad Mohall No. 4) over a period of three months shows the low level of community interaction and mobilisation. It was only at the action of some social workers and the media attention that families grew wary of the situation and the number of accidents that had occurred within their own area and the surrounding localities. While all the initial police reporting and investigation of the waste site was conducted at the behest of the government officials, the community managed to organise themselves under the banner of SSAC to pursue any future legal action. They, however, had no involvement in lodging the case or in dealing with the concerned state agencies.

Humanitarian Assistance:

While the government did not step forward with any financial assistance claiming that it was the responsibility of the industrialists to do so, SITE Association stepped forward to offer financial help to the affected families. The community members met this gesture with mixed reactions, but it was agreed that it was in no way a settlement or compensation for the accidents and the amount was distributed with the help of the SSAC. While some of the children were provided help from the Zakat Fund at the hospitals, others bore the cost of the treatment through acquiring loans and selling off their possessions. In very rare cases were the families able to handle the expenses without undergoing any financial hardship. Neither did any NGO's or other private agencies step forward to provide any timely financial relief to the affected families.

Legal Redress:

With the help of SSAC, some of the affected families are poised to initiate legal action against the offenders and to pursue a damages case. Almost all of them face stringent financial constraints in launching the case and are unsure whether the courts will be sympathetic towards their grievances. Several others have chosen to refrain from pursuing this legally since they feel that they do not stand a chance against the political and financial clout of the bigger industrialists. This is in strong contrast to the earlier legal procedures (FIR), in which the community members had no involvement of their own. The dissociation from the due legal process is possibly another reason why some members of the community are still reluctant in pursuing the case.

4.2 Gaps in the System- Strengths and Weaknesses:

Though the government officials stepped in and expedited the process of registering the case, and SITE association stepped forward with financial assistance, all of this was done at least a month and in some cases almost two months, after the accidents had occurred (the earliest recorded case occurred on the 15th/ March/2005, and the FIR was recorded on 5th/May/2006). The primary reason that Iftikhar's father refused to take Rs.150,000 from the SITE Association for his deceased child, was because no one had come forward at the time of the accidents to offer help; he argued that if Iftikhar had received proper timely treatment, he might have survived the accident. The delay in response from the state and the fact that it spurred into action only after the incident had been aired on the media, shows that they had no way of verifying any such accidents through official agencies nor were they truly interested in addressing such events.

Immediately after the accidents, the family members had to make the necessary arrangements for medical services. There was no response or help from any of the state agencies to provide assistance in arranging for medical treatment or even in transporting the affected children to the nearby hospitals. The involvement of the state has been completely absent in this phase. The late reaction of the state and the concerned authorities highlights the absence of an appropriate monitoring mechanism and the lack of an emergency health service system.

While one can praise the media for highlighting the issue and prompting the government agencies into action, the necessary impact of it has been relatively short-lived. This is not so because of the nature of the issue, but an aspect of the use of media coverage. Promises of justice made by government officials made in this highly publicised period, lost its steam within a few weeks. The detailed chemical reports were delayed and no concrete steps were taken to nab the offenders.

In this whole scenario, one of the most problematic areas has been the apportioning of responsibility. The residents of the community were not aware of their legal rights within

such a situation and the lack of responsiveness from the state agencies did not help in resolving this problem. The confusion amongst the Police officers as to which police station was responsible for recording the FIR worsened matters, as all investigations were subsequently delayed. Additionally, the environmental ministries blamed the industrialists for being irresponsible, avoiding the question of their responsibility in monitoring and prosecuting any environmental violations. The alleged industrialists involved in this case - Garib Sons Pvt. Ltd. – blamed the contractor, who denied any knowledge of the toxicity of the chemicals, nor of any contract to dispose the waste at a specified location in Hub. The residents of the locality and the affected families held Garib Sons responsible for the tragedy and blamed SITE Ltd., a government agency, for not monitoring environmental violations. There is also a case lodged against the individuals who had obtained the lease for the plots. Lack of awareness amongst the affectees, of the proper legal procedure, did not allow them to articulate their grievances in an orderly and timely manner.

Another aspect of this incident, which is worth examining, is the gender dimension. Given the highly conservative nature of the society, it is highly uncommon for the women to step outside of their homes and interact with society; even during this incident, it was primarily the men who took the children to the hospital and looked after their medical treatment. In some cases, the women of the family were not fully aware of the toxicity of the waste nor were they informed about the developments that had taken place during the phase of heightened media involvement. The primary residents of the community, who have to on a daily basis interact with the high levels of pollution, are the women and children; and it is this segment of the society that is the most incapacitated to articulate their concerns. The men, given the nature of their occupation, spend very little time in their homes, and as a result do not have to interact with the environmental problems. This as a result can weaken the level of community-based action that might be possible in the eventuality of any accidents, such as this one.

Though an FIR was lodged against Garib Sons, the lessees of the plot, and the contractor, it was done so in the name of the Director EPA Dr. Iqbal Sayeed Khan, not the affected

families; the community members had minimal involvement in the subsequent proceedings. Neither were the affected families involved in lodging the FIR, nor were they aware of their stake in the legal proceedings that could follow. The low level of participation in the formal legal process has not dispelled previous apprehensions in dealing with the state or with larger industrialists. This could also be a possible reason why many, despite the legal proceeding having been initiated, are reluctant to lodge a damages case.

Currently even, the unified front that has been put up has been through the SSAC. The SSAC was formed on the initiative of a few social workers in the area, who later convinced the affected family members to become involved. These few individuals visited the affected households to record the details of the incident and also to try and convince them of the benefits of taking legal action. Without the continued support of these few individuals, it is very likely that the affected family members will not pursue the case any further. Additionally, the SSAC has attracted the interest of a prominent and qualified lawyer who has helped the affectees on his own accord. The involvement of any state institutions in this affair is almost negligible if not completely absent. This highlights the frailty of community-based action in this context, and the dependency of the process on the commitment and willingness of a few individuals, who are not directly linked to the case. It is possible that in the absence of the individual social workers and the lawyer, the incident might have not even been registered as a case.

5.0 Lessons Learnt and Questions for Further Research

This case while imparting several lessons also raises several questions regarding the involvement of the state and the community members in such an eventuality. Emergency preparedness, as was witnessed in this case, was negligible, as a result of which one child lost his life and several others have been severely injured and traumatised. This incident raises questions regarding the broader management of urban environmental problems, and the areas that future research on environmental problems and policy could focus on; some of these are highlighted below:

- Clear definition of responsibilities:

It is important to have a clear and defined system of roles and responsibilities within state institutions to facilitate citizens in the case of an emergency. The institutions in turn need to be strengthened with both finances and manpower to ensure that they serve their purpose. More importantly, the citizens or members of a particular locality need to be educated about the different agencies, officials and facilities that are made available to them.

In the case of industrial practice, it is important to focus on the system of sub-contracting and the allocation of responsibility within such a set up. It needs to be ascertained whether the manufacturers are fully waived of all responsibility by sub-contracting or whether they have a stake in all activities related to the production cycle. The existing policies need to be reviewed, and if necessary modified, to remove such ambiguities.

- Partnership between authorities and communities:

In order to make the system more participative, it is important to ensure communities are involved in the process of implementing their rights. Monitoring of environmental violations can be made more effective if the authorities work in partnership with the concerned communities and establish a system of monitoring and reporting. This can also empower communities to be more proactive in securing their rights and instil a sense of ownership. Low levels of community mobilisation and problems in interacting with state

agencies would need to be studied in greater detail to understand areas that need improving.

- Analysis of vulnerable sections of society:

It is the poorer sections of society that are most vulnerable to such forms of pollution and it is there one would have to look uncover possible problems and causes. It is also necessary to analyse the composition and history of the migrant communities to understand the disparate and low levels of collective action within them.

- Prior identification of industrial environmental hazards:

Industrial production and processing standards (especially in the chemical industry) need to be reviewed and monitored more thoroughly. It is important to identify apriori, the possible hazards and accidents that can occur within a particular sector; subsequently, provisions need to be made to handle such accidents. The community within the vicinity of particularly hazardous factories also need to be educated to handle any emergency situations.

- Gendered impact of environmental hazards:

The women who are in direct contact with the various forms of pollution are not in a position to take any action to voice their concerns. Therefore, it becomes important to obtain the perspective of the women within a community to fully understand the problems that environmental pollution causes in the daily routine of their lives. Additionally, it could also be worthwhile to investigate possible mechanisms via which the women can be empowered to play a more active role in the monitoring process.

APPENDIX - I

List of affected Persons in Case FIR No. 181/06 US 322/337H-II Q.D 285/286PPC 14 Environmental Protection Act 1997. PS SITE

Sl.	Name & Full address of Affecteds	Deceased/ Injured	Age	Position of Injuries	Contact No.
1	Iftikhar Ahmad S/O Khujai Muhammad R/O H/N 666 bi. C Muhammadi colony Abidabad	Deceased	8/9 Year	Deceased	0333-3435290
2	Naveed S/O Ali Zaman R/O Bl. C Muhammadi colony Abidabad	Injured	8/9 Year	Both Legs (Serious)	0333-3435290
3	Shiraz S/O Ali Sarwar R/O H/N 714 Bl. C Abidabad Baldia Town	Injured	9 Year	Both Legs & Hands(Serious)	0333-3435290
4	Siddiq S/O Sahab Zada H/O 3624 KESC near siddiqia masjid Abidabad	Injured	11 Year	Both Legs & Hands(Serious)	0333-2149905
5	Sarbaz Khan S/O Mustajib Khan R/O H/N 4233 faqir colony	Injured	12 Year	Both Legs(Serious)	0321-2458204
6	Noor Islam S/O Abdul Salam R/O Kohati chouk Abidabad	Injured	30 Year	Both Legs & Hands(Serious)	NIL
7	Faisal S/O Haizir Muhammad R/O H/N Q.313 Labour Squar Site	Injured	14 Year	Both Legs & Hands(Serious)	2584048
8	Hazrat Shah S/O Gul Nazeer R/O H/N KESC-1886 muslimabad Bl B abidabad	Injured	11 Year	Both Feet	2580756
9	Shareef S/O Syed Akbar R/O Sarhad Muhallah Rashidabad	Injured	11 Year	Both Feet	0333-2272595
10	Rehmat Shah S/O Shah Akbar R/O Sarhad Muhallah Rashidabad	Injured	8 Year	Both Feet	0333-2272595
11	Shahid Khan S/O Tahir Khan R/O Sarhad Muhallah Rashidabad	Injured	10 Year	Both Feet & Hands	0333-2272595
12	Asad S/O Jahan Zada R/O Sarhad Muhallah Rashidabad	Injured	13 Year	Left Foot	0333-2272595
13	Naveed S/O Khawas Khan R/O Sarhad Muhallah Rashidabad	Injured	14 Year	Both Feet	0333-2272595
14	Sakhi Akbar S/O Muhammad Alam R/O Sarhad Muhallah Rashidabad	Injured	60 Year	Both Feet	0333-2272595
15	Ali Husain S/O Abdul Rehman R/O Sarhad Muhallah Rashidabad	Injured	55 Year	Both Feet	0333-2272595
16	Hazrat Ali S/O Alam Khan R/O Sarhad Muhallah Rashidabad	Injured	12 Year	Right Foot	033-2272595
17	Akbar Zada S/O Sheerin Khan R/O Sarhad Muhallah Rashidabad	Injured	20 Year	Both Feet	0333-2272595
18	Wahid Zada S/O Sheerin Zada R/O Sarhad Muhallah Rashidabad	Injured	26 Year	Both Feet	0333-2272595
19	Aslam Khan S/O Ghulam Jan(Had gone to Ugi) Mansotra C/O Taj Khan S/O Dawat Khan R/O Bl. C abidabad	Injured	35 Year	Both Legs	NIL