

## **Tragedy at DIK Sugar Mills Site- Green Industry A Priority Need**

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The incident took place 5 – 6 kilometer away from Chashma Sugar Mill & Ethanol Distillery, Ramak and Tandlian-Wala Sugar Mill, Miran, on May 02, 2014 around 1700 hours at Basti Plowa, Ramak, Tehsil Parova, Dera Ismail Khan (DIK), wherein nine precious lives (including two females) were lost and 11 persons injured. The injured were admitted to THQ hospital, Prova and DHQ hospital DIK. Later on some patients were taken to Nishtar Hospital Multan. Both sugar mills started operation between 2004–2006 but the production was closed down (at the end of the season) in March, 2014. Ethanol distillery started operation in early this year but was closed the same day the tragic incident happened.

Disregarding environmental legislation “Prohibition of Certain discharges or emissions,” the Ramak sugar mill and the Ethanol distillery (when in operation) discharge their untreated effluents into the nearby stream (barsati nalah) through an open drain (about two kilometer in length), whereas, the Miran sugar mill (when in operation) discharges the untreated effluents directly into the same stream. However, the place of incident is located three KM away from the untreated effluents entry points,. At the time of incident both the drain and the stream were not in full flow but there were pools of effluents (of different sizes) here and there, both in the drain as well as in the stream. From time to time, there have been reports of people getting feet injuries at the very spot and also one reported incident of cattle falling into the effluent pool, containing/ emitting hazardous chemicals of most unbearable foul odor. Part of the stream (dry/low water level) is a daily routine walking path for villagers & others to go and after work return from the nearby agricultural farms/ fields. Plain even/uneven wooden board are placed over these effluents pools of different size/depth for passing over by the people.

On the day of incident, a girl while walking over the wooden board to cross the effluent pool/stream due to toxic vapors fainted/ slipped and fell into effluent pool. Her mother and another female jumped, to save her but the two themselves seem immediately affected by the toxic vapors, struggled to get out and started shouting for help. Those who followed met the same fate, resulting nine persons losing their lives and eleven had to be admitted to hospital due to injuries.

Hazardousness and toxicity of effluents/emissions from sugar mills and ethanol distillery are well established. Most prominent among these are extremely foul and most unbearable distillery wastes, sulfur dioxide (manufactured by burning sulfur) often used for clarification of sugarcane juice and hydrogen sulfide, resulting from bacterial action on sulfur/sulfur compounds in anaerobic condition (absence of oxygen). Both gases are water soluble and the very high temperature would enhance their emission along with other volatile chemicals

present in the effluents. Both gases are heavier than air, hence would accumulate over the ground/water surface in a closed, dry low water level shallow well like area/situation. Faintness/death could be due to swallowing of toxic effluent and/or both with the inhalation of these gases and absence/lack of oxygen due anaerobic conditions caused by very high biological oxygen demand (BOD) effluents.

The wide and open area around the incident spot makes investigation for the cause of deaths perplexing but there could be such effluent pools/ditches having the closed well like conditions/situation. It is very heartening that DG, EPA, KPK , with his team had already visited the site for on the spot observations/discussion. We look forward to environmental protection agency (EPA),KPK report/findings of this most unfortunate incident with loss of precious lives, to bring to justice to those responsible for the tragedy and the grant of due compensation to the affected families/individuals.

Every industry (be of sugar or some other product) in the country is fully responsible for pre-treating its releases (effluents to land/water bodies & emissions to air) at source before it reaches at the factory boundary exit point, prior to flowing into the factory drain, if any. EPAs are fully responsible to implement environmental legislation to safeguard public/workers safety & health and protect the environment. However, industries need not to be closed down or banned and the industrial progress & growth be continued in the country which is most essential for economic growth and poverty reduction. What is most important and desirable is our industry turning into green industry, with adequate investment in pollution control measures, to avoid any such accidents in future, inshallah.

#### **Useful References:**

- 1.“Study on Effluents from Selected Sugar Mills in Pakistan: Potential Environmental, Health and Economic Consequences of an Excessive Pollution Load,” Nadia M.Akbar and Dr. Mahmood A. Khwaja, Research Report, SDPI, June, 2006
- 2.“Occupational Health Hazards: Chashma Sugar Mills – A Case Study,” Asad Raza Khan, Department of Public Administration, Gomal University, D.I. Khan, 2006
3. Sugar Mills Environmental Survey Reports, TTSID Project, SDPI, 2000

