

## **DISASTER VICTIM IDENTIFICATION THROUGH DNA ANALYSIS IN KENTEX FIRE DISASTER**

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The industrial fire incident that transpired at Kentex Manufacturing factory on May 13, 2015 in a northern suburb of Manila, Philippines resulted to the death of 74 workers. Kentex is a manufacturer of flip flops and rubber shoes. It took five hours for the fire department to get the blaze under control. Bodies of the victims were beyond physical recognition as most of them were severely burnt. Among the victims were six full siblings (three pairs of sisters and three pairs of brother and sister) and one pair of mother and daughter. One victim has a twin sister and none has DNA records that can be used for direct comparison. Among the victims, only three were physically identifiable.

The Philippine National Police (PNP) DNA laboratory received 168 post-mortem (PM) samples from 71 victims, 19 ante-mortem (AM) samples from nine victims, and 134 reference samples from relatives corresponding to 71 victims. Submitted samples were subjected to DNA analysis. Combined DNA Index System (CODIS) 7.0 Pedigree Manager was used to identify pedigree matches between the DNA profiles obtained from the PM samples and the DNA profiles obtained from the relatives. All pedigree matches were double checked using the Popstats kinship program and manually reviewed.

Subsequent comparison of DNA profiles through direct and pedigree matching resulted in the positive identification and released of 70 victims. One was unidentified because no DNA could be extracted due to extreme heat decomposition. Matching probabilities were estimated using a standard statistical approach. Ante-mortem DNA results were used to differentiate female full siblings.

Identification of victims is of utmost importance for legal and compassionate reasons. This paper describes the role of DNA analysis toward the DVI response to the Kentex fire disaster and the practical approaches and lesson learned obtained from this disaster.