Forensic Architecture investigation on the Outsourcing Risk case

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Introduction

Forensic Architecture's investigation of the Ali Enterprises factory fire demonstrates how buildings can preserve evidence about labor conditions, management decisions, and corporate responsibility. The fire occurred in Karachi on 11 September 2012 and killed approximately 259 workers, making it one of the deadliest industrial disasters in Pakistan's history. Commissioned by the European Center for Constitutional and Human Rights, the research team reconstructed the factory and tested how fire, smoke, overcrowding, blocked routes, and inadequate exits shaped the death toll. The case is called "Outsourcing Risk" because dangers created within a supplier factory were connected to an international garment chain whose commercial benefits and legal responsibilities crossed national borders (Forensic Architecture, 2018; European Center for Constitutional and Human Rights, n.d.).

The Ali Enterprises Factory and Global Supply Chains

Ali Enterprises manufactured garments for the German retailer KiK, which was reported to be the factory's principal customer. This relationship placed the building within a global system in which brands purchase products from legally separate suppliers while influencing cost, volume, deadlines, and auditing practices. Outsourcing can create jobs and enable specialization, but it can also separate commercial control from direct responsibility for worker safety. The investigation therefore asked more than who started the fire. It examined how architectural defects, management practices, certification, and buyer oversight combined to make an emergency catastrophic. The case illustrates why supply-chain responsibility cannot be evaluated only through ownership documents; economic leverage and knowledge of production conditions also matter (Forensic Architecture, 2018; European Center for Constitutional and Human Rights, n.d.).

Why Architecture Became Evidence

Traditional investigations often prioritize witness statements, official reports, physical samples, and legal documents. Forensic Architecture adds spatial analysis by asking what the configuration of a building allowed people to see, reach, and survive. In a fire, the width and location of stairs, doors, windows, workstations, storage areas, and exits can determine whether occupants escape before

smoke and heat become lethal. The Ali Enterprises building was no longer available in its original condition, so the team treated photographs, plans, sketches, and testimony as fragments from which a spatial model could be constructed. Architecture became evidence because design and use patterns constrained every worker's possible route during the emergency (Forensic Architecture, 2018; Weizman, 2017).

Sources Used in the Reconstruction

The research drew on satellite and ground-level photographs, witness sketches, survivor testimony, and investigative reports produced by Pakistan's Federal Investigation Agency and a joint investigation team. Each source contributed different information. Photographs established exterior features and visible openings, sketches helped locate internal rooms and work areas, testimony described movement and obstruction, and official reports supplied measurements and prior findings. None of these materials was complete by itself. The investigators therefore compared sources, identified contradictions, and used spatial consistency to test claims. This triangulation is a major strength because it reduces reliance on any single witness or institution while making disagreements visible rather than silently choosing one narrative (Forensic Architecture, 2018).

Building the Three-Dimensional Model

A three-dimensional digital model allowed the team to combine evidence within one navigable environment. Researchers could position floors, stairs, doors, windows, machinery, and work areas and then compare the model with photographs and accounts. The model was not a decorative illustration of a conclusion already reached. It functioned as an analytical instrument through which proposed layouts could be checked and revised. It also enabled judges, lawyers, workers, and the public to understand relationships that would be difficult to communicate through technical text alone. Visual clarity is especially valuable in a case involving several floors, changing smoke conditions, and many simultaneous attempts to escape, although persuasive imagery must remain traceable to documented assumptions (Forensic Architecture, 2018; Weizman, 2017).

Fire and Smoke Simulation

Forensic Architecture collaborated with fire specialists to model smoke propagation through the factory. Smoke frequently incapacitates occupants before direct flame reaches them, and an exit can become unusable when its route fills with toxic gases or loses visibility. The simulation examined how building geometry, openings, stairwells, and fire separation affected the movement of smoke. Such modelling does not recreate every molecule or human decision with certainty. It estimates behavior from physical principles and stated inputs. Its reliability therefore depends on the accuracy of dimensions, materials, fire location, ventilation assumptions, and timing. The value lies in testing

whether observed outcomes are compatible with the reconstructed building and whether safer configurations would have changed evacuation conditions (Forensic Architecture, 2018; Stollard & Abrahams, 1999).

Crowd and Evacuation Analysis

The investigation also examined how workers moved through limited escape routes. A door that is technically present may offer little protection if it is locked, obstructed, difficult to identify, or reached through a route narrower than the number of occupants requires. Overcrowding increases delay and can cause dangerous pressure at bottlenecks. By modelling evacuation, the team could compare the actual arrangement with legally compliant alternatives, including additional exits, protected stairs, and clearer routes. This counterfactual method is important because it moves beyond describing tragedy. It tests whether foreseeable changes could have saved lives. The results supported the conclusion that design and management failures significantly increased casualties regardless of the fire's initial cause (Forensic Architecture, 2018; Stollard & Abrahams, 1999).

Failures of Design and Management

The reconstructed evidence indicated systemic rather than isolated weaknesses. Reported problems included insufficient escape routes, stairs exposed to smoke, doors or pathways that did not lead safely outside, overcrowded work areas, and inadequate fire-warning and suppression arrangements. Architectural failure cannot be separated from management because buildings are operated through decisions about occupancy, storage, locked access, maintenance, training, and production pressure. A compliant drawing is ineffective when an exit is blocked during work, while a defective plan cannot be repaired through instructions alone. The case therefore challenges explanations that frame industrial disasters as unpredictable accidents. Catastrophe emerged from ordinary decisions that accumulated risk before the first visible flame (Forensic Architecture, 2018; European Center for Constitutional and Human Rights, 2020).

The Role of Certification and Auditing

Ali Enterprises had received certification under the SA8000 social-accountability standard shortly before the fire. The apparent contradiction between certification and the factory's lethal conditions raised questions about audit quality, sampling, independence, worker participation, and the incentives of certification systems. An audit is a temporary observation rather than continuous control, and announced visits may not reveal daily practice. Auditors may also depend financially on organizations seeking certification, creating potential conflicts. Certification can improve standards when evidence is rigorous and corrective action is enforced, but it becomes dangerous when buyers treat a certificate as proof that no further oversight is necessary. The case shows that assurance

mechanisms require accountability of their own (European Center for Constitutional and Human Rights, 2020).

The Legal Case against KiK

One survivor and three relatives of workers killed in the fire filed a civil claim against KiK in Germany with support from ECCHR and medico international. Forensic Architecture's analysis was submitted to the Regional Court in Dortmund to help explain how factory conditions contributed to the deaths. The court ultimately dismissed the claim as time-barred, meaning that the alleged responsibility of KiK was not fully determined on the merits. This distinction is crucial. A procedural dismissal does not establish that the supply chain was safe or that the retailer lacked influence. The investigation retained evidentiary and public significance even though it did not produce the judicial ruling sought by the claimants (European Center for Constitutional and Human Rights, n.d.; European Center for Constitutional and Human Rights, 2020).

Strengths of the Investigative Method

The method's strongest feature is its ability to integrate many incomplete forms of evidence into a testable spatial account. Three-dimensional models make relationships among testimony, design, smoke, and movement understandable to nonspecialists. Simulations also permit counterfactual testing: researchers can alter exits or occupancy and observe whether predicted evacuation improves. Collaboration among architects, lawyers, filmmakers, fire scientists, and crowd specialists broadens expertise. The published visual material allows external scrutiny of at least part of the reasoning. Finally, the method can restore agency to survivors by placing their descriptions within an evidentiary structure rather than treating testimony as emotional background to technical reports. These features make architecture useful in human-rights investigations (Weizman, 2017; Forensic Architecture, 2018).

Limitations and Risks

Digital reconstruction can appear more certain than the underlying evidence permits. Viewers may mistake smooth animation for direct footage, even when portions depend on estimates. Witness memory can be affected by trauma, time, perspective, and incomplete knowledge, while official records may contain institutional bias. Computer simulations also respond to chosen parameters, and alternative assumptions may produce different results. Investigators should therefore disclose uncertainty, label reconstructed elements, preserve source chains, and invite expert challenge. Expense and specialist knowledge can limit access for affected communities. A compelling model is ethically legitimate only when visual persuasion remains subordinate to transparent methods, corroboration, and the right of opposing parties to examine its foundations (Weizman, 2017).

Corporate Responsibility beyond the Factory Owner

The title “Outsourcing Risk” captures the broader argument that brands should not outsource responsibility while retaining economic benefit. Buyers can influence suppliers through prices, delivery schedules, order concentration, contractual requirements, and inspection systems. When commercial demands contribute to excessive occupancy or neglected maintenance, formal separation does not eliminate ethical responsibility. At the same time, responsibility is shared among factory owners, managers, regulators, auditors, buyers, and governments rather than transferred entirely to one foreign company. Effective prevention requires enforceable building standards, worker representation, credible inspections, transparent supply chains, safe purchasing practices, and remedies accessible across borders. Voluntary codes are insufficient when violations carry little consequence (International Labour Organization, n.d.; European Center for Constitutional and Human Rights, 2020).

Conclusion

The Ali Enterprises investigation shows how architecture can reveal the material organization of corporate risk. By combining photographs, testimony, official reports, three-dimensional modelling, smoke analysis, and evacuation simulation, Forensic Architecture demonstrated that the factory’s design and management amplified the fire’s consequences. The work also exposed weaknesses in certification and the difficulty of obtaining remedy through transnational litigation. Its methods are powerful but must be accompanied by clear uncertainty statements and source transparency. Most importantly, the case changes the meaning of an industrial accident. The deaths were not merely the result of a sudden flame; they were shaped by decisions about buildings, labor, auditing, purchasing, and accountability made long before 11 September 2012 (Forensic Architecture, 2018; European Center for Constitutional and Human Rights, 2020; Weizman, 2017).

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