

HURRICANE KATRINA

Devastation in New Orleans

On August 29, 2005 Hurricane Katrina, a large Category 3 hurricane, hit the coast of Louisiana. Although it was not a direct hit to New Orleans, as feared, the impact of the hurricane storm surge, the failure of the levee system to hold back flood waters, and the ineffective evacuation and rescue of city residents made the impact on the city a devastation that has had lasting effects.

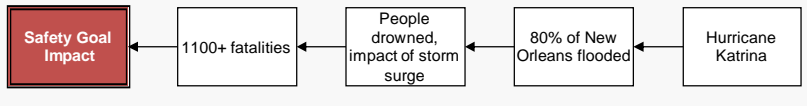


1 Problem

What	Problem(s)	Hurricane Katrina devastated New Orleans, 1100+ deaths, levees failed to protect low lying areas, evacuation and rescue/response ineffective
When	Date	August 29, 2005
	Different, unusual	Segments of protective system incomplete
Where	State, city	New Orleans, LA
	Task being performed	Preparation and response to Category 3 hurricane
Impact to the Goals		
Safety		1100+ fatalities
Environmental		Significant impact, beach erosion, contamination of Lake Pontchartrain
Community Impact		Significant impact - loss of homes, displacement
Production-Schedule		Significant impact to economy, significant unemployment
Property, Equip, Mts		Significant damage to homes, infrastructure, businesses, etc
Labor, Time		Significant rescue and clean-up efforts
Frequency		First time levees failed, location of city makes exposure to hurricanes frequent

2 Analysis

Basic Level Cause Map - Start with simple Why questions.

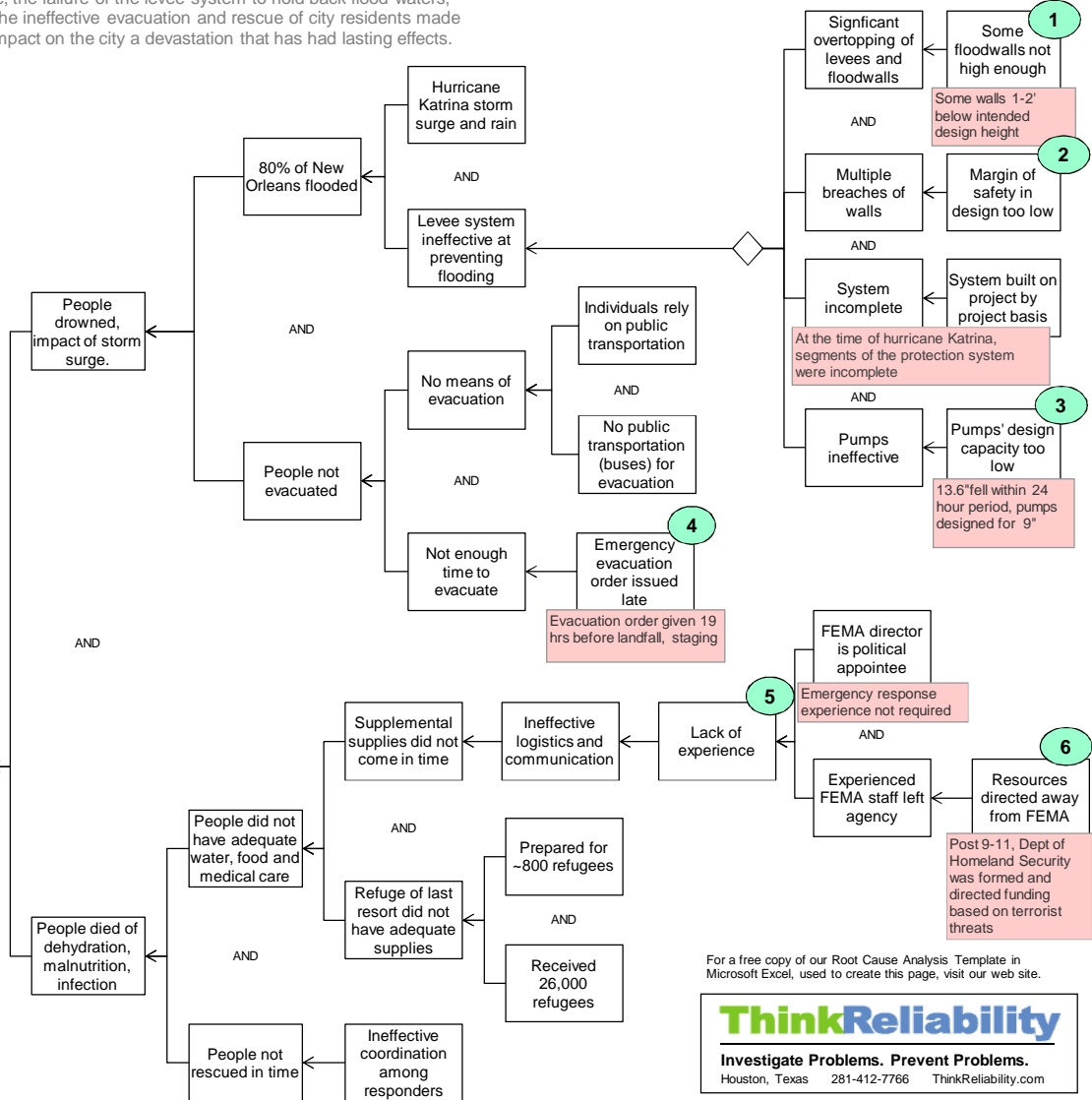
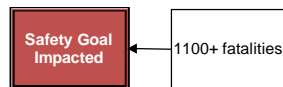


More Detailed Cause Map - Add detail as information becomes available.



3 Solutions

No.	Action Item	Cause
1	Review elevation data and correct levee heights where needed	Some floodwalls not high enough
2	Use 1.4-1.5 as safety factor in all future design projects	Margin of safety in design too low (1.3)
3	Increase pump capacity to cover 100 year rainfall event and levees overtopping	Pumps' design capacity too low
4	Order emergency evacuation 30+ hours prior to landfall to allow adequate time for evacuation	Emergency evacuation order issued late
5	Require emergency response experience for anyone filling FEMA director role	Lack of experience
6	Redirect funding back to natural disaster preparedness	Resources directed away from FEMA



For a free copy of our Root Cause Analysis Template in Microsoft Excel, used to create this page, visit our web site.

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