

## DISASTER RISK AND THE COMMUNITY

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## ABERFAN



## BACKGROUND

21 Friday 1966  
Tip of Merthyr Vale Colliery  
40,000 cubic ms of liquid slurry 12 ms deep  
Destroyed a farm, 40 houses and  
Pantglas Junior School  
144 killed, 116 children

## PRECONDITIONS

Huge piles of rock and mining slag on  
highly porous sandstone and natural  
springs  
Super-saturated slag liquefied  
Concern amongst community – LA  
1963 letter to NCB

## EFFECTS

Davies Inquiry – NCB at fault  
Tips engineering structures  
Prolonged effect on community  
New legislation introduced



## BHOPAL



## BACKGROUND

3 December 1984  
Bhopal, Madhya Pradesh  
42 million tons methyl isocyanate released  
Official death toll 2,259  
More generally accepted total 8,000 to 10,000 dead

## PRECONDITIONS

- Union Carbide economics
- Water entered large storage tank of methyl isocyanate
- Exothermic reaction led to release
- Poor maintenance
- Inadequate storage
- Safety systems shut down
- Built in populated but poor urban area
- Poor safety record

## EFFECTS

- Cocktail of chemicals – phosgene, hydrogen cyanide, carbon monoxide, hydrogen chloride
- Heavier than air – entered ground and basement rooms preferentially
- 170,000 people treated
- Animals killed/slaughtered
- Vegetation and crops affected
- Food shortage and long term ill health



## HURRICANE KATRINA



## BACKGROUND

29 August 2005  
80% of New Orleans Flooded  
Depth of 4.5 ms in parts  
90% of residents of SE Louisiana evacuated  
1,464 people died  
Public disorder  
Infrastructure extensively damaged

## PRE-CONDITIONS

Levees identified as inadequate  
Delay in reconstruction (end date of 2015)  
Evacuation problematic – poor no cars  
Inadequate policing  
FEMA changes

## EFFECTS

Poor areas disproportionately badly effected  
Poor trapped in city  
Louisiana Superdome experience  
Clean water and power at a premium  
Reconstruction prolonged  
Inadequate housing with all its effects



## PUBLIC REACTIONS



## DISEASE

- MRSA
- C Difficile
- SARS
- Avian Flu
- Swine Flu
- HIV



## NON DISEASE

- Electricity cables
- Mobile phone masts
- GM food

## PROBLEMS

- Scientific illiteracy
- Deep seated fears
- Distrust of authorities
- Vested interest

## APPROACHES

- Identification of hazard
- Understanding of risk
- Monitoring of risk
- Management of risk
- Empower the potentially affected communities
- Political priority