THE FOUR ESSENTIALS OF LIFE

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Human Response in Disasters Drives New Approach to Emergency Management
Economic Realities

- 13.2% below poverty level (Feb 10)
- 9.7% unemployment (Feb 10)
- 1.5 mill on food stamps (30% increase in 1 yr)
- 20-25% increase at food pantries /soup kitchens
- 22% of population does not have one credit card
- 25% of households lack bank accounts or use payday loans
The Economy & Emergency Management

- Increase in special needs populations
- Increase in assisted evacuation
- Fuel, food & shelter demands increased
- The cost of personal preparedness
- Are we asking too much?
Maslow’s Hierarchy of Needs

- **Physiological**: breathing, food, water, sex, sleep, homeostasis, excretion
- **Safety**: security of body, of employment, of resources, of morality, of the family, of health, of property
- **Love/Belonging**: friendship, family, sexual intimacy
- **Esteem**: self-esteem, confidence, achievement, respect of others, respect by others
- **Self-actualization**: morality, creativity, spontaneity, problem solving, lack of prejudice, acceptance of facts
Human Behavior & Emergency Management

- How do people actually react & why?
- Accept what is, not what we want to believe
- What we plan, and what people actually do are increasingly different
- Design systems to support what people actually do
Human Response in Emergencies

- Most people take shortcuts based on experience, emotion & various biases
- They will act in what they believe is in their best interest
- Efforts to modify these behaviors will not significantly influence actions
The Four Essentials Of Life

From the human perspective...

Communications
Transportation
Power
Water
#1 -- Communications

- The prime directive....communicate!
- Confidence provided by communications
- Happening independent of emergency services
- Reduces fear and anxiety
- Enhances resiliency
Recent events...

- Virginia Tech, April 2007
- Sichuan China EQ, May 2008
- Mumbai, Dec 2008
- US Airways Crash, Jan 2009
- Red River Flood, March 2009
- Australian Bushfires, Jan 2009
- Iran Election Protests 2009
- H1N1 outbreak
- Philippines, October 2009
- Haiti January 2010
Mind Boggling Numbers

- 87% of the US population owns a wireless device
- 90% of Americans are within 3 feet of their mobile device 24 hours a day
- 35% of US households basically wireless
Communications

- Billions of cell phones / communications devices
- Public expectation is to communicate 24/7
- An imperative to communicate
- Nothing can be done to reduce this imperative
Communications

- Public to public communications underway before authorities have arrived on the scene
- Cell calls, text messages, photos, video, and audio
- Viral communications
The Media Role

- CNN I-Reports pull communications from the public
- Local TV Stations: encourages viewer submissions
Actions for Emergency Managers

- Prepare PSAPs & EOCs to use new media
- Follow lead of news media – pull & push
- Give highest priority for restoring cell phone service post incident / post disaster
#2 -- Transportation

- Normal rush hours demonstrate inadequacy of highway system
Transportation

- Get to my family, Get away from danger
- Drastic increase in “special needs” populations
- Non-self evacuating populations
- Who pays?
Transportation

- Only 11 of 37 urban areas received passing evacuation grades

- Evacuation of urban areas is critical unresolved issue in emergency management today
Actions for Emergency Managers

- Move evacuation to high priority and decide who will pay
- Use easy-to-understand visuals & process
- Pass state legislation for generators at gas stations
#3 -- Electrical Power

- Everything we do is based on having availability of power
- More batteries than ever before, even our candles!
- Without power, society loses all key functions
- But, loss of power is not in DHS catastrophic planning scenarios.....
2003 Blackout

- 9,300 square miles
- 8 states, 2 provinces
- 50 million people
- No trains, no planes, no cell phones, no computers
- Water systems shut down
Power Concerns

- Intentional intrusion of electrical grid
- Most fire, police, government buildings do not have full building auxiliary power
- Power companies selling generators for homes
- Portable generators
Mixed Messages?

- Power companies selling “whole-house” generators for private homes
- Portable generators
- Gasoline?
Actions for Emergency Managers

- Sustained power interruption must be part of your catastrophic planning
- Address availability of gasoline/diesel
- Key government facilities must have backup power
Community Points of Light

- Every fire station
- Every police station
- Major public buildings

- Whole-building generators
#4 -- Water

To sustain life
- 5 weeks without food
- 5 days without water

Potable water is one of the first post-disaster “requirements” for both responders and survivors
Movement of Water = $$$

- Katrina/Rita
- 13+ mill gallons
- More than $100 million

- Gustav/Ike
- 10+ mill gallons

- 8 pounds/gallon
Alternatives for Water Purification

- **LifeStraw**: 3 year shelf life, 184 gallons or 1 year of use -- $3.00

- **PUR Purifier of Water**: costs $0.10 for a family of five for one day
Actions for Emergency Managers

- Increase public education about water
- Address water supply chain
- Use alternatives for purification
Looking to the Future

- Base actions on research of what people actually do in emergencies & disasters
- Accept what is, not what we want to believe
- Design systems to support what people actually do
It’s not that we cannot solve the problem, sometimes we cannot even see the problem.