Managing Catastrophic Events

The role of technology in disaster management
Corporate Responsibilities

The IBM Crisis Response Team

- Commercial & Government Sector Services
  - Preparedness, Mitigation, Response, Recovery, Assessment
- IBM Risk & Insurance Management Support
- IBM Global Humanitarian Relief Services

Colombia, Ecuador, Venezuela, Turkey, Greece, Taiwan, Japan, India, Kosovo, El Salvador, Peru, Rwanda, South Africa, Canada, France, Italy, United States
“I Lost Everything”

Turkey
August, 1999
Earthquake: Gujarat

Magnitude 7.9

- Affected Population: 16,972,606
- Human Fatalities: 30,000 +
- Injured Persons: 68,478
- Destroyed Houses: 228,906
- Damaged Buildings: 397,538
Continuity of Life & Business Disruptions

Social, Political, Economic, Environmental

**Business**
- Employees
- Customers
- Facilities
- Business operations
- Insurance
- Suppliers
- Reputation
- Stockholders
- Recovery

**Humanitarian**
- Victims
- Families
- Community
- Trauma
- Lifelines
- Emergency Services
- Schools, Hospitals
- Government
- Economy
Consequence Management

Pre-Disaster - “EVENT” - Response - Recovery

Preparedness & Mitigation

Cost vs. Benefit

Continuity of Operations

Survival
Changing Environment

Continuity Of Operations

Considerations

• Expanding Risk / Exposures
• Reduced Insurance Coverage
• Criticality of Facilities / Consolidation
• Changing Social & Financial Standards
• Legal / Regulations
• Stockholder Relations
• Customer & Constituent Expectations / Requirements
Business Continuity Protection
Field Operation Challenges

Political, Social, Economic, & Environmental Issues

- Emergency Response Practices & Policies
- Rapidly changing & unique support requirements
- Customs Regulations / Manual - Paper Driven Systems
- Supplies, Equipment, Volume of Goods Received
- Expired Food, Medicine, Damaged Goods
- Language, Volunteers
- Available Support Personnel
- Infrastructure Damage
- Media Relations
Primary Goals

- Improve access to critical “Real-Time Decision Making” information
- Facilitate information sharing and communication between organizations
- Identify and reduce redundant efforts
- Utilize disaster resistant, flexible, and secure technology solutions
- Provide comprehensive reporting & linkage to vital legacy systems
- Long term benefits: future preparedness
Response & Recovery Support Systems

• Critical Components

  – A unified incident command & control information system
  – Damage assessment & status tracking systems
  – A medical supply and donation management system
  – A supply ration control and distribution system
  – An emergency resource management, logistics, personnel assignment and tasking system
  – Integration with NGO systems
  – Financial Tracking systems
Incident Command System

Operations Section
- Information
  - Safety
  - Liaison

Planning Section
- Resources
  - Situation
  - Demobilization

Logistics Section
- Service Branch
  - Communications
  - Medical
  - Food
- Support
  - Supply
  - Facilities
  - Ground Support

Finance & Administration Section
- Time Unit
- Cost Unit
- Compensation
- Procurement

Staging

Branches, Divisions & Groups
Logistics Support System

• Disaster Resistant Technology Implementation

• Lotus Notes/Domino based solution
  – User interface is standard web browser
  – Supports mobile and disconnected users
  – Distributed data synchronization
  – Robust network backup and recovery
  – Centralized System Administration
  – Multi-layered security
Meeting the Challenge of 9/11

IBM Rapid Response Solutions

- **Communications**
  - “Sametime” instant messaging
  - Wireless Blackberry services
    - Mayor’s Office, EOC, Governor’s Office, NGO’s
    - Secure Network, E-Mail

- **Deep Thunder – weather analysis system**
  - Weather analysis within 1 kilometer zone

- **Equipment Acquisition**
  - Provided emergency equipment to help
  - Restore IT systems and communications

- **Fatality Tracking (DMORT)**
  - Provided volunteer personnel
  - Data entry function
Meeting the Challenge of 9/11

IBM Rapid Application Development

“Improvise, Implement, Refine”

- Building Status Tracking System
  - Linked data from multiple NYC agencies to provide status on impacted facilities.

- GIS interface
  - Linking maps to building status for impacted facilities

- Logistics Management, Family Assistance
  - applications were developed in cooperation with IBM business partners, independent agencies, and solution providers
Inspectors can enter the address of the building to be inspected and download an image of the building footprint to verify they are at the correct location.

Inspection data is entered and uploaded to the Department of Buildings Inspection Report System in real time via a wireless data connection.
Emerging Crisis Management Approach

Technology, Risk, & Continuity Action Plans

- Conduct detailed risk, vulnerability, & continuity assessments
- Identify required crisis event decision making variables
- Design and implement targeted “real time” decision support systems
- Utilize proven disaster resistant technology solutions with linkage to legacy systems
- Design for a “high stress”, degraded infrastructure environment
- Utilize flexible, scalable and easily modified systems
- Anticipate social, economic, environmental and political needs
- Plan, Exercise, Update, Partner, Review
Future Initiatives: Homeland Security

- Counter Intelligence
- Threat Assessment
- Threat Reduction
- Threat Response
- Information Infrastructure Security
- Disaster Recovery and Continuity
- Sense
- e-learning
- Collaboration
- Customer Relationship
- Knowledge Management
- Supply Chain
- Infrastructure
- Business Intelligence
- Security/Privacy
- Portal
Disaster Response

Top 10 Rules

• Remain Calm and Assess Immediate / Emerging Needs
• Respond Decisively
• Don’t point fingers or fix blame on others
• Show patience and compassion – listen
• Maintain your sense of humor
• Tell the truth, and tell it often
  – you can not over communicate
• Do your best work… the first time
• Build and follow your plan effectively
• Don’t take on too much – delegate tasks
• Demonstrate Leadership and Confidence
IBM Capabilities

Pre-Disaster Services (preparedness & mitigation)

- Independent Site & Continuity of Operations Assessments
  - Response, Recovery and continuity of operations assessments
  - Initial Vulnerability Assessment – critical facilities including EOC
  - Review financial, political, personnel, and reputation considerations
  - Annual update and review
- Assist in developing, updating, improving continuity plans
- Assist in identifying coordinated emergency response resources
- Install / upgrade / improve communication and IT infrastructure
- Develop disaster resistant technology solutions and applications
- Conduct security review and program development services
- Information Technology back-up and “Hot Site” recovery services
- Crisis Response Team / Incident Management support
- Conduct and / or review disaster simulation exercises
IBM Capabilities

Time of Disaster Services (response)

IBM Crisis Response Team Support
- Incident Management Support
- Response and EOC operational change management services
- Facilitate cross agency linkage and communication
- Review on-scene action plans based on experience in similar disasters
- Focus resources towards high value activities
- Identify the self interest of all parties responding
- Assist in the coordination of volunteers, NGO’s and external resources
- Assist in the identification of financial and insurance coverage issues
- Assist in the identification of operational alternatives
- Assist with personnel productivity, trauma and media relations issues
- Assist in rapid relocation and fit-up services
- Resolve conflict among agencies.
- Build cross-agency support systems
- Rapid Application Development, Implementation, Customization
- Expedite the delivery of critical information for decision making
IBM Capabilities

Post Disaster Services (recovery)

- Focus on accelerated recovery with reduced cost
  - Assist in reviewing economic re-development considerations
  - Assist in coordination of multiple government and private sector agency community recovery efforts
  - Assist in support of private sector recovery services
  - Assist in managing financial restitution process
    - Advise local and state agencies on federal government DSR claim and appeals process procedures
    - Coordinate and Manage the Insurance Claim and Financial Restitution Process
  - Assist in the development and review of business claims
  - Assist in reviewing emergency programs, legislation, or policies invoked to assist disaster victims.
  - Design and implement technology systems to support recovery actions
  - Facilitate cross agency linkage and communication
  - Identify the self interest of all parties involved in the recovery effort