SUPPLY CHAIN CONNECTIVITY & DISASTERS RESILIENCE: ROLE OF REGIONAL INTEGRATION

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Japan’s Earthquake, Tsunami, Nuclear Explosion (March 2011)
Crippled SONY Warehouse
Hurricane Katrina: Smashes the Gulf Coast (2005)
New Orleans: Virtually Everything Destroyed
Flood in Pakistan (2009)
Heat Wave in Russia: August 2010
Volcano Eruption in Iceland (2010.04)
…Driving through Ashes from Volcano Eruption…
Winter Storms in Europe: 2009 & 2010
...Stuck at the Frankfurt Airport
Private Sector: Key Factors of Supply Chain Vulnerability

- Globalization: More complex, Longer Supply Chain
- Product Variant: Food, Mineral, Energy
- Outsourcing
- Reduction of Suppliers
- Focus on Efficiency: JIT
- Central Distribution
- Central Production
Risk Measurement & Challenges

- **Risk**: Probability of Occurrence $\times$ Level of Impact

- **Challenges**:
  - How to minimize probability of Occurrence?
  - How to lower level of Negative Consequence?
Supply-Chain Risk Management

- Disaster Prevention or Mitigation
- Early Warning System
- Contingency Plan: Disaster Recovery, Safety of the employees, Retrieval of business back-up data, emergency communication, Relocation of business operation, sourcing of alternative suppliers.
- Adequate Insurance Program:
Approaches to Risk Mitigation

- **Cost Benefit Analysis**: Single Sources vis-à-vis Multiple Sources:
  - Efficiency & Effectiveness: “We’re in the Same Boat!”
  - Propriety Knowledge & Technology in Design Stage;
  - Additional Sources may only provide single location risk mitigation & may add little disaster resilience

- **Supplier Flexibility Agreement**: Volume Increase of up to 25% in one week’s time, and 100% in 4 week’s time.

- **Inventory Policies**: Stockpiles, Replenishment Rules & Safety Stock or “Pooled Risks”
Hard Infrastructure Building for Supply Chain Connectivity

- **Right Amount:** Capacity, Pricing, Maintenance
- **Right Time:** Opportunity, Interest Rates
- **Right Type:** Air, Sea, Land Connectivity
- **Right Place:**
Soft Infrastructural Building for Supply Chain Connectivity

- **Systems & IT:**
  - Inadequate System,
  - Lack of Broad Penetration of IT

- **Regulations & Licensing**
  - Lack of Transparency & Predictability
  - Freedom to cross-border Logistics Operation

- **Governance: Lack of Coordination**

- **Safety:**
  - Lack of Appropriate Technology & Regulations
Public Private Partnership

- Multi-Approach to Secure Regional Trade
- Develop Pilot Projects;
- Encourage harmonization & standardization;
- Establish Center of Excellence
Taiwan’s Contributions in APEC for Supply Chain Connectivity

- Emergency Preparedness
- APEC Center for Typhoon (ACT)
- APEC SME Crisis Management Center
- Cloud Computing for Value Chain
- APEC Food System;
Thank You!