

# Lecture 6: Learning from Disasters – Business and Humanitarian Ones

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# The Need for Vulnerability Assessment and Preparedness

**Businesses can learn from humanitarian operations about vulnerability assessment, emergency preparedness, and response to disasters – be they natural or man-made, accidental, or deliberate, such as terrorist attacks, and vice versa.**

# The Need for Vulnerability Assessment and Preparedness

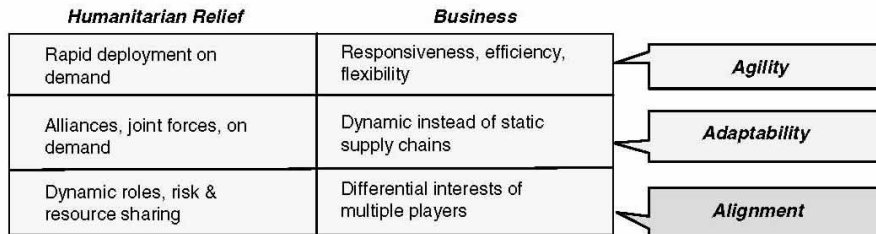


Figure: Strategy to win

Source: H. Lee, 2004. The triple-A supply chain, *Harvard Business Review* 82, 102-112.

# The Need for Vulnerability Assessment and Preparedness

**The Ericsson vs. Nokia case is a classic one in supply chain disruption management.**

**It highlights vulnerability to risk and the positive impact of preparedness, coupled with an appropriate and timely response.**

In March 2000, a 10-minute fire caused by lightning at a Philips semiconductor chip factory in Albuquerque, New Mexico, resulted in major loss in the profits of one mobile phone manufacturer, Ericsson, while another, Nokia, was able to agilely respond. In this example, Nokia was well prepared to deploy adequate procedures using well-trained people, whereas Ericsson was not.

# The Need for Vulnerability Assessment and Preparedness

The consequences were a revenue drop of 4.5 billion Swedish Kronor (about a \$400 million dollar loss) for Ericsson, a real setback at a time when they were fighting the battle for market dominance with Nokia.

**Companies are notoriously poor at dealing with these types of small probability, big impact events.**

**This is exactly humanitarian organizations' core business and competence.**

L. N. Van Wassenhove (2006), Blackett Memorial Lecture: Humanitarian aid logistics: supply chain management in high gear, *Journal of the Operational Research Society* **57**, 475-489.

# The Need for Vulnerability Assessment and Preparedness

## Nokia

- Executive Hit Squads set up and trained years ago by CEO with on-the-ground authority to respond to crises.
- Component team on-site to monitor condition and report daily to Nokia's mobile phone Division President.
- Nokia and Philips CEO met. Nokia offered engineering help to Philips in Albuquerque, NM.
- Within 2-weeks, chips redesigned so that backup suppliers from US and Japan could be used. Philips agreed to utilize additional capacity from Eindhoven and Singapore.
- Production target met, with subsequently strong business growth.

Source: 'Crisis bared one's weakness, other's strength.' *Wall Street Journal* January 29, 2001.

## Ericsson

- No crisis management process in place.
- Relied on Philips to report damage conditions.
- Trusted Philips' original assessment (damage of only 1-week shutdown of factory).
- Head of Ericsson Consumer Goods Division only learned of the problem one month later.
- No backup suppliers in place – No Plan B.
- Severe shortage – estimated revenue loss of 4.5 billion Swedish Kronor

# Partnerships between Humanitarian Organizations and Companies

**Not only can business and humanitarian organizations learn from one another but there have been successful partnerships.**

# Partnerships between Humanitarian Organizations and Companies – WFP and TNT

TNT (formerly TPG) is a huge logistics company. The company was started by Ken Thomas in Australia in 1946 with one truck. In the 1950s, Thomas Nationwide Transport (TNT) flourished as Mr. Thomas developed new overnight services. Over 50 years, TNT grew by expansion and acquisition into a global company operating extensive air and road networks throughout the world.

## **According to TNT's website:**

- TNT Express employs over 75,000 people.
- It operates 26,000 road vehicles and 47 jet freighter aircraft.
- Its worldwide network has over 2,300 company owned depots and operates in 200 countries.



# Partnerships between Humanitarian Organizations and Companies – WFP and TNT

A few years ago its CEO Peter Bakker decided the company should engage in a partnership with a humanitarian organization in order to contribute to the eradication of hunger in the world. The partner that was selected was the WFP (the United Nation's World Food Programme). With an annual budget of 1.6 billion euros, the WFP is arguably the world's biggest humanitarian organization.

**It is certainly the largest humanitarian logistics operator by a large margin.**

# Partnerships between Humanitarian Organizations and Companies – WFP and TNT

**On any day, the WFP has 40 ships on the seas, 20 planes in the air, 1000 trucks on the ground. Hence, it is almost the same size operator as TNT. It made sense for TNT to partner with WFP and vice versa.** TNT decided to transfer know-how, instead of money, so that the WFP could become more effective in disaster response (quick deployment) and coordinate better with other humanitarian organizations (joint logistics). The partnership involves 5 million euros per year over 5 years and includes projects in emergency response and in joint logistics supply chains.

**Examples of initiatives:** WFP pilots being trained in TNT's training center in Liege in Belgium and TNT experts helping WFP to reorganize its warehouse in Brindisi, Italy.

Source: R. Sami and L. N. Wassenhove, 2004. The TPG-WFP partnership: learning how to dance, No.

# Corporate Social Responsibility (CSR)

The TNT-WFP partnership is an example of CSR at its best.

**CSR is an issue at the forefront of business and top level decision-makers.**

According to Porter and Kramer (1999): *The more social improvements relate to a company's business the more it leads to economic benefits as well.*

The source for the subsequent CSR slides is: J. M. Cruz, 2008. Corporate Social Responsibility (CSR) for sustainable development in Africa, prepared for *Humanitarian Logistics: Networks for Africa* Workshop organized by A. Nagurney, May, Rockefeller Foundation Bellagio Center, Italy.

## *CSR - Definitions and Terminology*

- Business in the Community defines CSR as:  
“a company’s positive impact on society and the environment, through its operations, products or services and through its interaction with key stakeholders such as employees, customers, investors, communities and suppliers.”
- Many terms used interchangeably
  - Corporate social responsibility
  - Corporate citizenship
  - Social programs / social investments
  - Community outreach / social outreach

## CSR Stakeholders



### Current drivers

- Consumers
- NGOs
- Trade unions
- Media
- Shareholders
- Risk reduction
- Brand
- Reputation

## *Core CSR Issues*



# The Benefits to TNT

**The benefits to the WFP from the partnership with WFP are clear but what did the private company gain since it must report to its shareholders?**

TNT received free publicity for its work with a humanitarian organization, raised its profile as a socially responsible company and created greater customer loyalty.

It also gained from working with highly experienced humanitarian staff members who have skills to deal with supply chains under the most intense and demanding circumstances.

L. N. Van Wassenhove (2006), Blackett Memorial Lecture: Humanitarian aid logistics: supply chain management in high gear, *Journal of the Operational Research Society* **57**, 475-489.

# An Example of UPS Working to Reduce World Hunger

**UPS Humanitarian Supply Chain Director Esther Ndichu argues that hunger is a logistics issue that food often rots miles away from the people that need it most.**

This is her TED@UPS talk video [Click here for the video.](#)

**This is an excellent example of a private-public partnership to do good.**



**The United Nations Global Compact was established in 2000 and launched at the World Economic Forum in order to 'harness the energy and influence of multinational corporations to act as good corporate citizens'.**

Another turning point came in 2004, following the Indian Ocean tsunami, businesses provided or mobilized \$565m in humanitarian assistance, and new, long-term partnerships were established between Pfizer and the UN Children's Fund (UNICEF), UPS and CARE International, and Coca-Cola and the UN Development Programme (UNDP) (Zyck and Kent (2014)).

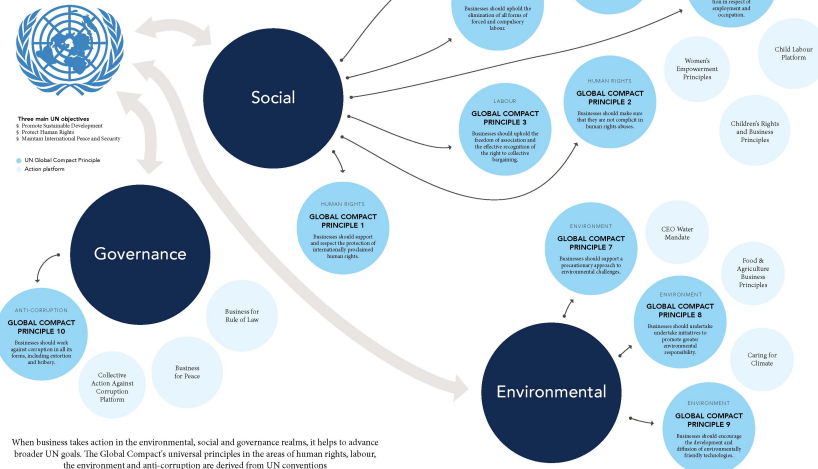
# United Nations Global Compact

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## UNITED NATIONS GLOBAL COMPACT – IN A NUTSHELL

Translating UN objectives into business principles and action platforms



# More on Private Sector Help in Disaster Relief

Since the establishment of the Global Compact, private sector engagement in humanitarian action has become oriented around such partnerships, with far fewer companies engaging with humanitarian activities fully independent of so-called 'traditional' aid agencies (that is, the UN agencies, NGOs, and the Red Cross movement).

# More on Private Sector Help in Disaster Relief

According to a study by Zyck and Kent (2014): Despite a former tendency for aid agencies to view businesses as prospective donors, **their greatest direct contribution has come in the form of new technologies and other innovations and the sharing of technical capacities in areas such as logistics (DHL, TNT, UPS, and others), telecommunications (Ericsson), information sharing tools (Microsoft), cash transfers, as well as shelter construction(IKEA), and even geomapping (Google) .**

Companies such as Unilever and Proctor and Gamble (P&G) have long provided consumer goods as gifts in kind for international disaster relief.

The Gates Foundation helped to jumpstart mobile payment systems in Haiti post the earthquake.

# More on Private Sector Help in Disaster Relief

**Logistics firms such as DHL, TNT, UPS, Aramex, Agility, and Maersk have collaborated with aid agency logisticians to improve processes and enhance effectiveness, and have delivered large volumes of aid.** They also regularly send experts to specific emergencies.

Through Logistics Emergency Teams (LETs), UPS and TNT sent personnel to Santo Domingo following the 2010 Haiti earthquake and have also been involved in the post-earthquake cholera crisis in Haiti, Cyclone Nargis in Myanmar, the 2010 floods in Pakistan, the earthquakes in Chile and Indonesia, and several weather events in the Philippines.

# More on Private Sector Help in Disaster Relief

Humanitarian-private sector engagement has been most extensive in the aftermath of natural disasters, with **a bias towards rapid-onset crises**.

**As emphasized by Zyck and Kent (2014), high-profile disasters provide a high degree of public exposure for businesses (and aid agencies), and they often require the rapid mobilization that private firms can achieve.**

Commercial interest in a particular region also plays a role: Pfizer's \$45m contribution following the 2004 tsunami was at least partly due to its commercial interests in affected areas.

**Corporate giving to disasters in less commercially significant locations, such as Kashmir in 2005 and Haiti in 2010, were more modest.**

# Coordination by Command – UNJLC

**The United Nations Joint Logistics Centre (UNJLC) was established to coordinate the logistics capabilities of cooperating humanitarian agencies during large-scale emergencies. The concept of a UNJLC came out of the humanitarian response to the 1996 Eastern Zaire crisis. In 2002, the UNJLC was institutionalized as a UN humanitarian response mechanism, under the aegis of WFP, by the Inter-Agency Standing Committee Working Group (IASCWG), now IASC. This was a challenging task especially since the UNHCR was not necessarily convinced it should coordinate with the WFP or UNICEF, even though all three of them are UN Agencies. The UNJLC has since taken on training, coordination, providing central information, as well as 'orphan issues' for which no one organization has a mandate.**

L. N. Van Wassenhove (2006), Blackett Memorial Lecture: Humanitarian aid logistics: supply chain management in high gear, *Journal of the Operational Research Society* **57**, 475-489.

# Coordination by Command – UNJLC

**During the Mozambique floods in 2000, the coordination skills of the UNJLC were tested to the full.** Cyclone Connie hit the southeast coast of Mozambique on February 4, 2000, seriously affecting three of the country's provinces. The quick rise in the water level resulted in widespread flooding of the major river basins. In a matter of hours, road and rail links to the bordering countries of South Africa and Swaziland were cut, railway services between Maputo and Zimbabwe were impeded, airfields were under water, property and thousands of acres of land were destroyed, and water purification plants, boreholes, wells were damaged.

**By the end of February, the worst and most extensive floods the country had known in 150 years had affected over 900,000 people, forcing 300,000 of them to abandon their homes, washing away 1600km of roads and destroying cultivated land and numerous bridges connecting the provinces.**



# Coordination by Command – UNJLC

**Adding to the severity of the disaster, was the threat of water-borne diseases, such as cholera and malaria with the risk increasing daily due to the pools of stagnant water and unsanitary conditions. Approximately 100,000 people were left homeless or stranded on islands of rooftops and trees.**

**It became clear that the only way to reach them was by helicopter. Since helicopters are a scarce and expensive resource, it was readily accepted that the UNJLC would coordinate operations for the different humanitarian organizations and that it would not only prioritize but also operate the assets. In an unprecedented move even the military accepted to be coordinated by the UNJLC who provided daily briefings to ensure that pilots were kept up to date.**

**As a result of the coordinated efforts, about 20,000 flights were organized without incident. This successful relief/rescue effort translates into 15,551 humans rescued/saved.**

L. N. Van Wassenhove, 2006. Blackett Memorial Lecture: Humanitarian aid logistics: supply chain management in high gear, *Journal of the Operational Research Society* **57**, 475-489.

# Keys to Better Preparedness

## Five Key Elements for Better Preparedness

Preparedness consists of five key elements that have to be in place to produce effective results. These, in turn, lead to effective disaster management. They are:

**1. Human resources:** Selecting and training people who are capable of planning, coordinating, acting and intervening where necessary. The basic principle of humanitarian aid is that people and countries can help themselves to the maximum level possible. Therefore, upgrading local skills is a primary task both between and during humanitarian interventions. It is always better to use a local instead of a foreigner who only speaks basic English, let alone the local language. With better training local teams would be better prepared and able to respond to local disasters.

# Keys to Better Preparedness

## Five Key Elements for Better Preparedness

**2. Knowledge management:** Learning from previous disasters by capturing, codifying, and transferring knowledge about logistics operations.

**3. Operations and process management:** Recognizing logistics as a central role in preparedness. Then setting up goods, agreements and means needed to move the resources quickly. In supply chain management this also means having alternative suppliers, modes of transport, and trade lanes in place.

# Keys to Better Preparedness

## Five Key Elements for Better Preparedness

**4. Financial resources:** Having sufficient financial resources to prepare and initiate operations and ensure that they run as smoothly as possible.

**5. The community:** Finding effective ways of collaborating with other key players such as governments, military, business and other humanitarian organizations. This could be achieved through mutual framework agreements.

# Keys to Better Preparedness

To be better prepared and therefore respond more effectively all five elements need to interconnect. The systems and departments need to be set up so that they enable the flow of goods (material flow), information to ensure collaboration and coordination (information flow) and funds from donor support and assets or goods in kind (financial flows) between each element or link in the chain.

# Keys to Better Preparedness

Preparedness is essential for the supply chains to work well, whether in the private or the humanitarian sectors. However, the main issue holding back many humanitarian organizations is finding the funds to finance the training and procedures that will lead to better preparedness and, hence, more effective logistical operations.

**Donations for a disaster are earmarked for relief and not for training and investment on preparedness strategies in between disasters.**

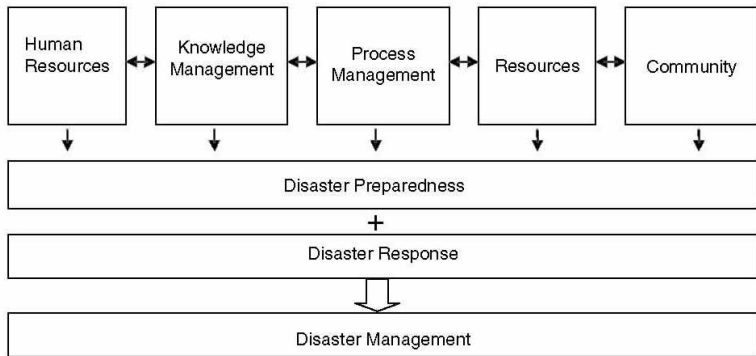
# Keys to Better Preparedness

According to Bernard Chomilier, former head of logistics at the IFRC: *It is easy to find resources to respond, it is hard to find resources to be more ready to respond.*

Despite the lack of funding, some organizations have made major improvements, including the IFRC.



# Effective Disaster Management



Source: R. Sami et al., 2002, INSEAD Case No. 06/2002-5039.

# Lessons earned from the Ebola Crisis

According to Sun, Dennis, and Achenbach writing in *The Washington Post* on December 28, 2014, the people fighting Ebola came up with the following lessons learned:

**LESSON: Rely on the local leadership**

**LESSON: Be sensitive to peoples' cultures**

**LESSON: Simple changes can yield significant results**

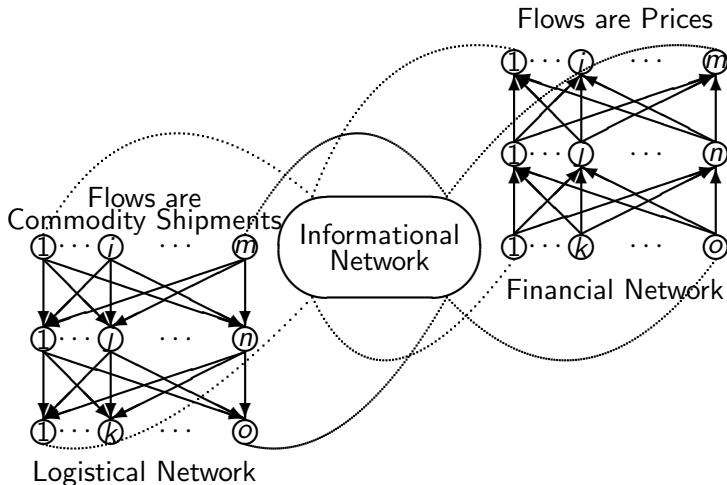
**LESSON: Speed and agility matter more than size**

**LESSON: We're all connected and unprepared for the consequences**

**LESSON: An ounce of prevention**

**LESSON: Keep fear in check.**

# The Importance of Networks and Their Integration



A. Nagurney, K., Ke, J. Cruz, K. Hancock, and F. Southworth (2002), Dynamics of supply chains: A multilevel (logistical/informational/financial) network perspective, *Environment and Planning B* **29** 795-818.

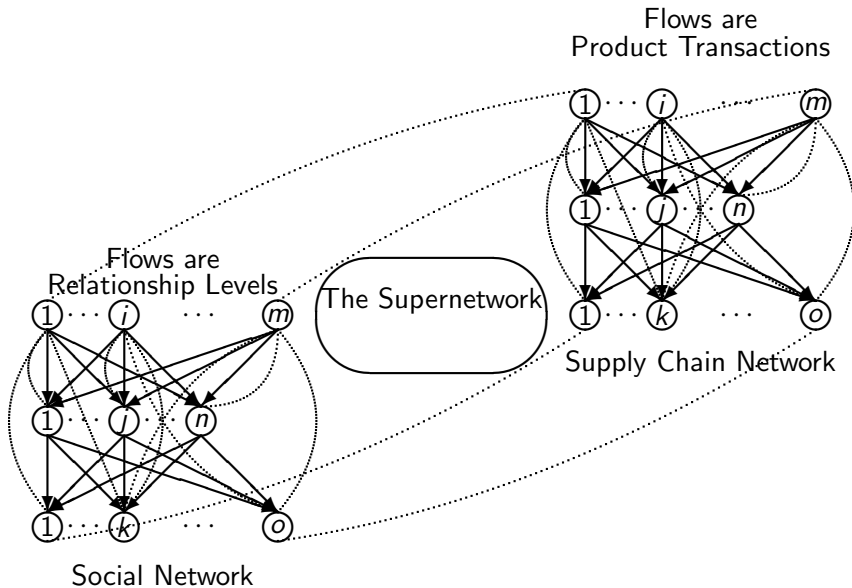
# The Importance of Networks and Their Integration

The enhanced design of supply chain networks for both humanitarian relief as well as for business can occur through the evolution and integration of network systems, including social networks.

## Two Additional References:

A. Nagurney, T. Wakolbinger, and L. Zhao, 2006. The evolution and emergence of integrated social and financial networks with electronic transactions: A dynamic supernetwork theory for the modeling, analysis, and computation of financial flows and relationship levels, *Computational Economics* **27**, 353-393.

J. M. Cruz, A. Nagurney, and T. Wakolbinger, 2006. Financial engineering of the integration of global supply chain networks and social networks with risk management, *Naval Research Logistics* **53**, 674-696.



**Figure:** The Multilevel Supernetwork Structure of the Integrated Supply Chain / Social Network System



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