

Cyclone Nargis and ICT for Humanitarian Aid (Update #1)

Sanjana Hattotuwa



Update to original report: 1st June 2008

The original report dealt with the period from 4 – 25 May 2008. Developments in the Humanitarian Assistance / Disaster Response (HA/DR) scenario in general and the emergency telecommunications sector in particular are dealt with in this brief update.

Further, the last section expands on recommendations and strategies for engagement proposed in the draft report.

Media background

- The United Nations welcomed the Myanmar Government's decision to allow more international aid workers into the hardest-hit areas in the country to support the ongoing recovery effort after Cyclone Nargis. At the same time the UN Office for the Coordination of Humanitarian Affairs (OCHA) also called for increased access for aid workers with non-governmental organizations (NGOs) as relief efforts pick up speed. (30th May 2008 - <http://www.un.org/apps/news/story.asp?NewsID=26861&Cr=myanmar&Cr1=>)
- A new row is brewing after the United Nations and US issued frustrated claims that aid to the Burmese survivors of Cyclone Nargis was still not reaching the worst hit Irrawaddy delta region. At a conference in Singapore, the Burmese deputy defence minister, Aye Myint, said that the Burmese military had acted swiftly and that they had responded to offers of foreign aid with "no strings attached." The United Nations, however, has predicted that as many as 200,000 people had still not received any food aid since the hurricane. (1 June 2008 - [http://www.inthenews.co.uk/news/autocodes/countries/singapore/burmese-junta-aid-workers-welcomed-with-no-strings-attached-\\$1225314.htm](http://www.inthenews.co.uk/news/autocodes/countries/singapore/burmese-junta-aid-workers-welcomed-with-no-strings-attached-$1225314.htm))

Available Information

The Emergency Telecommunications Cluster (ETC) has kicked into gear. UNICEF provides common data telecommunication services and WFP common security telecommunications services. The Emergency Telecommunication Cluster (ETC) was set up with the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) serving as chair and process owner, the United Nations Children's Fund (UNICEF) serving as the common data communications service provider and the United Nations World Food Programme (WFP) serving as the common security telecommunications service provider¹. The ETC works with DPKO, UNHCR, UNITAR/UNOSAT, WHO, UNDSS, UNDP, ICRC, IFRC. Importantly for the ICT4Peace Foundation, the ETC also works with Ericsson Response as well as SRSA (Swedish Rescue Services Agency), NRC (Norwegian Refugee Council), DRC (Danish Rescue Council), Télécoms Sans Frontières, RedR Australia, NetHope - consortium of 18 international NGOs, as well as other stand-by and private sector partners².

The Myanmar HIC³ page to date shows very little information with regards to the provisioning of telecommunications equipment. It is clear from the minutes of the only meeting available on the website that the WFP is taking the lead and working closely with the UNHCR⁴:

¹ <http://documents.wfp.org/ict-emergency/ETC/index.htm>

² <http://www.humanitarianreform.org/humanitarianreform/Default.aspx?tabid=82>

³ <http://myanmar.humanitarianinfo.org/Pages/home.aspx>

⁴ <http://myanmar.humanitarianinfo.org/telecommunications/Meeting%20Minutes/Telecommunication%20Meeting%20Minutes%208th%20May%201400.doc>

WFP - Ready to share the radio frequencies to use WFP network.

UNHCR - Agreed to use WFP network in Yangon area to avoid duplication

Two of the worst hit areas of the Irrawaddy delta region have also connectivity using the IPSTAR satellite communications system⁵ with the potential of high-speed satellite connectivity. VSAT⁶ and BGAN⁷ connectivity is also now in place in some critical areas. The World Food Programme's FITTEST (Fast IT & Telecoms Emergency and Support Team) are being deployed as well.

Challenges, Analysis and Opportunities

- Given the communications exchanged at the time of the draft report and since, it is still not clear as to what degree of information sharing exists with regards to the crisis information capacities present on the ground, ready for deployment and can be called upon on demand from other parts of the world. Instruments – legal, physical and software – are known, but the exact details of their use are hard to come by.
- Significant problems on the ground continue to bedevil telecoms provisioning. As noted in WFP/Inter-Agency Emergency Telecommunications Situation Report: #6 on 26th May 08 the problems on the ground are:
 1. *Equipment held in customs, negotiation for release with WFP's line ministry focal point continues.*
 2. *Access issues for staff to Delta region remain; with possible changes coming, awaiting clarification.*
 3. *Restriction on official imports of telecommunications equipment remains.*
 4. *Use of telecommunications equipment in Delta region prohibited, with some approvals coming through in Laputta.*
- Portals that have been set up remain walled gardens of information and knowledge. It is unclear to outsiders as to how and to whom information in these systems is accessible. One key example in this regard is the World Food Programme ICT Humanitarian Emergency Platform - <http://documents.wfp.org/ict-emergency/Emergencies/index.htm>. Accessing information on this site requires a login and when asked the WFP's response is:

"For security reasons, we decided to protect some areas and restrict the access to the agencies operating on the ground."

⁵ <http://www.ipstar.com.au/about.htm>

⁶ A Very Small Aperture Terminal (VSAT), is a two-way satellite ground station with a dish antenna that is smaller than 3 meters (most VSAT antennas range from 75 cm to 1.2 m). VSAT data rates typically range from narrowband up to 4 Mbit/s. VSATs access satellites in geosynchronous orbit to relay data from small remote earth stations (terminals) to other terminals (in mesh configurations) or master earth station "hubs" (in star configurations). VSATs are most commonly used to transmit narrowband data (point of sale transactions such as credit card, polling or RFID data; or SCADA), or broadband data (for the provision of Satellite Internet access to remote locations, VoIP or video) - http://en.wikipedia.org/wiki/Very_small_aperture_terminal

⁷ A Broadband Global Area Network or BGAN for short, is a form of Satellite Internet and telephony provided by INMARSAT. The system uses two geostationary satellites with additional satellites planned to be launched in 2007/2008 to increase coverage to global. The system will then cover all parts of the world except for Polar Regions. Downlink speeds are up to 492kb/s and upload speeds slightly lower at 300-400kb/s but with PEP software or other TCP packet accelerators you can exceed those speeds. The terminals have many capabilities each with different costs associated with them. The main two that apply to basic BGAN usage are Telephone Voice and Background IP data. Voice is on average \$0.99 per min. and costs can vary based on type of calls are made (Land lines, Cell phones, other Satellite phones) Data can run anywhere from \$5.00-\$10.00 per MB depending on what service provider is used. The advantage of BGAN over other satellite systems is that the terminal is portable, can be easily set up by anyone, and is the only portable satellite system on the market that has this high of quality and speed for both voice and data services.

This raises a number of obvious questions. If a process of vetting is required, the transparency of the actors involved in the vetting must be made more evident. There is no focal point given to approach with requests for access. It is unclear as to how those who have access to the information in the system were chosen (perhaps members of the ETC?). It is not clear what information is present. It is not clear as to whether the information here is the same as the HIC, if not, why not and if so, why there would be a duplication of information.

- It isn't clear that the Myanmar HIC, which is supposedly the one place that collects all relevant information regarding the HA / DR process writ large, is actually getting the information in a timely manner. Reasons for this may still be that the HA / DR efforts are embryonic.
- In February 2008, the Vodafone Group Foundation (VGF), the United Nations Foundation (UNF) and WFP have launched a three-year Global Partnership for Emergency Communications to create a groundbreaking "ICT Humanitarian Emergency Platform" in support of the entire humanitarian community (including UN agencies and NGOs) operating in emergencies. The aim is to increase the efficiency and coordination of emergency communications by optimizing and standardizing ICT solutions in emergencies, expanding the pool of trained ICT experts, establishing a network of stand-by partners ready for deployment, and enabling immediate dispatch of ICT emergency responders.⁸

It would be useful to pursue ways through which the Foundation's expertise can feed into this initiative. Perhaps our work with the UN PBSO can be leveraged in this regard in addition to our relationships with the CEB. It would also be useful to see if the media syllabi designed for Egypt and the CCCPA can be leveraged to provide more broader support for the WFP ETC on an on-going basis (and not just in response to Nargis).

- With private / commercial, UN and NGO comms provisioning now underway it is unclear as to whether the lessons identified and learnt in exercises such as Strong Angel III (noted at length in the draft report) with regard to spectrum management and interference are being heeded. There is also no emphasis on the harmonisation of needs in the available bandwidth (e.g. if one agency's starts to do video conferencing, will that impede the vital emails sent out by an NGO?)
- It is unclear as to what degree VOIP is being used in the field (services like Skype). A recent NY Times article makes for interesting reading in this regard - http://www.nytimes.com/2008/06/01/technology/01digi.html?_r=1&ref=technology&oref=slogin since it talks about "single domain" and "cross domain" services that I feel could be interesting to pursue from a technical perspective for HA / DR work. Nigel Snode's thoughts in this regard would be most useful as would be Dag's on the design of a system for the HA / DR community that would have the reliability of a "single domain" service and the flexibility to bridge VOIP calls to that which most sit-reps are now using in Myanmar - CDMA phones and other PSTN / POTS devices (in simple English, just normal phones).
- Open Source (e.g. Sahana) vs. proprietary systems (e.g. Groove) vs. walled gardens (e.g. WFP ETC) seems to be a three-way tussle between competing approaches to information storage, dissemination and collaboration. INSTEDD's deployment of Sahana and its translation into Burmese have been covered in the draft report. It is evident that most of the UN uses one sort of proprietary system or another.

A case study of Sahana written by an independent researcher points to many advantages of the system⁹. As I note in *Emergency response information systems: emerging trends and technologies: Open source software for disaster management*¹⁰:

⁸ See <http://documents.wfp.org/ict-emergency/ETCMembersandPartners/PrivateSector/index.htm> for details.

⁹ http://en.wikibooks.org/wiki/ICT_for_Disaster_Management/ICT_for_Disaster_Response#Case_Study_1:_Sahana_Disaster_Management_System_in_the_Aftermath_of_the_Indian_Ocean_Tsunami_in_2004_and_Pakistani_Earthquake_in_2005

I'm not sure about access protocols and internal data security in Sahana, but clearly, placing both the Government and I/NGO in the same network of trust is downright dangerous... The central problem that arises thereof, and not limited to Sahana but all ICT4Peace and humanitarian aid system particularly in conflict zones is how to both keep the information generation, storage and dissemination as open as possible, but also as secure as possible. It is a challenge I've noted earlier and that I am very interested to discover how Sahana will grapple with in the future.

There is also the misperception that open source necessarily means that information is more interoperable. That it may increasingly be the case in practice is no guarantee against the lack of standards and established best practices in the use of FOSS for HA / DR in a manner that does not compromise data exchange across platforms and systems. A question that needs to be asked from the Humanitarian FOSS community (and one that the Foundation is uniquely placed to take forward the discussion of) is whether Sahana, P2pAid, iCare, the various products and services in NGO-in-a-box and OpenMRS (all catalogued in the Humanitarian-ICT and Humanitarian-FOSS wiki - http://www.reliefsource.org/foss/index.php/Main_Page) can exchange information critical to HA / DR easily and in a sustained manner.

On the other hand, Groove also has serious limitations when it comes to actual field use that I have covered in depth as part of a report that looked at the tsunami crisis information management and response¹¹. It is however a robust system and an extremely secure one at that, though it has a tendency to suck up all available bandwidth.

It is proposed that the Foundation, in consultation with key members of its Advisory Board, formulates a strategic framework for the use of these systems in a complementary fashion to ensure redundancy and resilience to, *inter alia*, network outages, hostile network intrusions and the plethora of security dimensions involved in work with a regime such as the Burmese military junta.

- The need for the Foundation to provide a way in which (a) a non-expert on the ground can go to a single website and get information on service providers (incl. the UN) who are able to respond to urgent needs on the ground with regard to information / communications (b) a vendor who wants to know what else is out there on the market (c) a solution providers who wants to evaluate the pros and cons of various systems for a particular need (d) experts who want to get details on a specific tool / product / service / idea in terms of deployment, technology, history, capacities, power requirements, testimonials and other feedback.

The author expects the expert system for Crisis Information Management (CIM) contemplated in the draft paper will go a long way to address these needs. Key in this regard will be to get the input of Nigel Snoad in the design and development of the system as well as his continued commitment to the oversight of the system.

¹⁰ <http://ict4peace.wordpress.com/2007/03/29/emergency-response-information-systems-emerging-trends-and-technologies-open-source-software-for-disaster-management/>

¹¹ *After the deluge: InfoShare's Response to the Tsunami*, http://sanjanah.googlepages.com/IS_post_tsunami_thoughts.pdf.zip