Typhoon Yolanda Relief Response Report

A Supply Chain Perspective

Volume 14 – Mar-HL

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PRESENTED AT:

Building Responsive & Resilient Supply Chain Partnerships:
From Aceh To Tacloban
- A Decade of Responding to Disasters in ASEAN
23 July 2014 | 9.00am – 2.00pm | Marina Bay Sands
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# List of Acronyms

<table>
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<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3PL</td>
<td>Third-Party Logistics</td>
</tr>
<tr>
<td>AFP</td>
<td>Armed Forces of the Philippines</td>
</tr>
<tr>
<td>AUSAID</td>
<td>Australian Department for International Development</td>
</tr>
<tr>
<td>CRM</td>
<td>Community Resource Management</td>
</tr>
<tr>
<td>CSC</td>
<td>Civil Service Commission</td>
</tr>
<tr>
<td>DBM</td>
<td>Department of Budget and Management</td>
</tr>
<tr>
<td>DBP</td>
<td>Development Bank of the Philippines</td>
</tr>
<tr>
<td>DENR</td>
<td>Department of Environment and Natural Resources</td>
</tr>
<tr>
<td>DECS</td>
<td>Department of Education, Culture and Sports</td>
</tr>
<tr>
<td>DFA</td>
<td>Department of Foreign Affairs</td>
</tr>
<tr>
<td>DFID</td>
<td>Department for International Development (UK)</td>
</tr>
<tr>
<td>DILG</td>
<td>Department of Interior and Local Government</td>
</tr>
<tr>
<td>DND</td>
<td>Department of National Defense</td>
</tr>
<tr>
<td>DOE</td>
<td>Department of Energy</td>
</tr>
<tr>
<td>DOLE</td>
<td>Department of Labor and Employment</td>
</tr>
<tr>
<td>DOST</td>
<td>Department of Science and Technology</td>
</tr>
<tr>
<td>DPWH</td>
<td>Department of Public Works and Highways</td>
</tr>
<tr>
<td>DSWD</td>
<td>Department of Social Welfare and Development</td>
</tr>
<tr>
<td>DTI</td>
<td>Department of Trade and Industry</td>
</tr>
<tr>
<td>ETC</td>
<td>Emergency Telecommunications Cluster</td>
</tr>
<tr>
<td>GA</td>
<td>Government Agencies</td>
</tr>
<tr>
<td>GATT</td>
<td>General Agreement on Tariffs and Trade</td>
</tr>
<tr>
<td>GPPB</td>
<td>Government Procurement Policy Board</td>
</tr>
<tr>
<td>HRD</td>
<td>Human Resources Development</td>
</tr>
<tr>
<td>HLURB</td>
<td>Housing and Land Use Regulatory Board</td>
</tr>
<tr>
<td>LGU</td>
<td>Local Government Unit</td>
</tr>
<tr>
<td>NDRRMC</td>
<td>National Disaster Risk Reduction and Management Council</td>
</tr>
<tr>
<td>NEDA</td>
<td>National Economic and Development Authority</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
</tr>
<tr>
<td>NFA</td>
<td>National Food Authority</td>
</tr>
<tr>
<td>ODA</td>
<td>Official Development Assistance</td>
</tr>
<tr>
<td>PEZA</td>
<td>Philippine Export Zone Authority</td>
</tr>
<tr>
<td>UNA</td>
<td>United Nations Agencies</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
</tr>
<tr>
<td>UNHAS</td>
<td>United Nations Humanitarian Air Service</td>
</tr>
<tr>
<td>UNHRD</td>
<td>United Nations Humanitarian Response Depots</td>
</tr>
<tr>
<td>UNOCHA</td>
<td>United Nations Office for the Coordination of Humanitarian Affairs</td>
</tr>
<tr>
<td>UNWFP</td>
<td>United Nations World Food Programme</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>UP-SURP</td>
<td>University of the Philippines – School of Urban and Regional Planning</td>
</tr>
<tr>
<td>UP-ROTC</td>
<td>University of the Philippines – Reserve Officers Training Corps</td>
</tr>
<tr>
<td>VSAT</td>
<td>Very Small Aperture Terminal</td>
</tr>
</tbody>
</table>
Purpose

The report is an outline and analysis of the various phases during the Typhoon Yolanda relief operation from a supply chain perspective: ‘Assessment – Sourcing/Procurement – Transportation – Warehousing – Distribution – Coordination’. Data and information have been collected by staff of the Kuehne Foundation – NUS HumLog Centre, The Logistics Institute Asia-Pacific and the University of the Philippines who were on the ground in Manila, Cebu and Tacloban in week 2, 3 and 4 after the disaster has hit the country. The authors attended various coordination meetings of the Logistics Cluster and conducted interviews with local and international NGOs, local Government as well as evacuated students from the University of the Philippines, Tacloban Campus. Operationally they supported Plan International in the typhoon affected areas through the secondment of a Logistics Specialist during the first weeks of the emergency response.

In close collaboration with its partners from humanitarian and commercial sector, Governments and academia, the Kuehne Foundation – NUS HumLog Centre is working on the enhancement of logistics capacity in context of emergency relief operations and long-term development projects in Southeast Asia. The data and information collected is based on field experience and interviews or from online resources and situation reports where it has been referenced.

Introduction

Typhoon Haiyan, locally known as Typhoon Yolanda, made landfall in central Philippines on 08 November 2013 with winds above 300 km/h causing a widespread destruction and loss of lives. As of 10 December 2013 the UN Office for the Coordination of Humanitarian Affairs (OCHA) estimated that 14 million people were affected including 4 million displaced people who lost their homes. Many of them were moved to evacuation centres or areas, and cities which were not affected. Despite the early warning systems which predicted the strength and track of the storm several days in advance and the evacuation advices communicated by the Government, the death toll climbed up to 6,200 and 1,700 were reported missing.

The Philippines is a typical archipelagic state consisting of more than 7,000 islands. Around 10 million people live on the islands in the central part of the country which is considered to be one of the poorest regions in the world. Subsequently, many people live in unstable housing conditions located a few meters above sea level making themselves vulnerable to natural disasters such as storms and flooding.
Tacloban, a city on the island of Leyte with a population of 220,000 caught the full force of the typhoon with winds approaching 310km/h followed by a storm surge which was reported to have reached up to 5 meters and flattened buildings throughout the city.

The reasons why many of the local population did not follow the evacuation advices from the Government was firstly, the fear of the people to leave their belongings behind and secondly, the fact that the Philippines is hit by 20-25 typhoons every year making the local population used to it, which created a sense of over-confidence. The magnitude of devastation from a category 5 Typhoon and the subsequent storm surge was not experienced by the vast majority of the population. Also the combination of the wind, rain and storm surges was not expected in this intensity, even by the weather experts.

The vast devastation of infrastructure such as roads, bridges, sea and airports on the affected islands made the initial assessment of the real dimension very difficult. The local authorities and field offices of various humanitarian agencies were practically not functional anymore. Unstable and unpredictable security situation on the ground due to looting and straying rebel groups worsened the situation on the ground during the first hours and days. Looting was ‘socially accepted’ in the first 2-3 days of the event for survival reasons. Various families had young babies that required milk powder or baby formula for survival, which made looting the viable option at the time.

The most urgent needs for the people who survived the storm were identified as clean water, food, shelter and medication. Furthermore, heavy equipment was required to clear and restore the blocked and damaged roads, sea and airports to allow the relief goods to arrive their destination. To kick off the operations on the ground, power generators, telecommunication equipment, fuel and basic supplies for relief teams on the ground were mobilised.

As outlined in various initial reports the major problem during the first phase of the relief operation was not the shortage of funding and resources, not even getting the relief into the country but to overcome the inaccessibility of the last mile to reach the affected areas – a truly logistics and supply chain challenge. Figures B and C provide an overview of the affected population and the geographical elevation of the respective areas.
Figure B
Source [2]
Figure C
Source [3]
Involved Actors

Shortly after the typhoon headed off to the South-Chinese Sea targeting Vietnam, it became obvious that the available resources and capacity in the Philippines were not sufficient to cope with a disaster of this scale. On 09 November 2013 the Government of the Philippines welcomed the offer of international assistance and similar to relief efforts at the Southeast Asia Tsunami 2004 and the Haiti Earthquake 2010, the world came together involving the whole range of responding actors such as local and international Governments, Military, UN agencies, Red Cross societies, Non-Government Organisations (NGOs), commercial entities as well as individuals and private households.

In disasters of this magnitude, the National Government is supposed to play the leading role when it comes to providing first aid and coordinating the relief efforts. Philippines is one of the few countries in ASEAN to have a coordinating centre solely dedicated to disaster risk management (National Disaster Risk Reduction and Management Council - NDRRMC). The NDRRMC pre-emptively evacuated 125,604 people to 109 evacuation centres in 22 provinces prior to the arrival of the typhoon. In the immediate aftermath of the typhoon, the Filipino Government was able to airlift some safe drinking water, relief supplies and food commodities to the affected areas but overall they were overwhelmed by the devastation and demand surge. Preparedness plans were in place but many people in the country criticised that most of them only existed on paper. However, having mentioned that, the local authorities in the affected areas were practically not functional during the first days which made any kind of communication and coordination difficult. Many of the civil servants and local government leaders had been personally affected by the typhoon. In addition it appeared that a number of local leaders had actually evacuated to Manila and Cebu before the typhoon so when the typhoon hit they were literally not there. Village leaders or ‘Barangay’ Chiefs/Chairmen had to remobilise their coordination structures to organise their sub-divisions. Once, the local and the National Government had overcome its initial paralysis, the Department of Social Welfare and Development (DSWD) took on the role of being the main focal point for all matters related to the disaster response.

Accustomed to the tragic reality of natural disasters that regularly destroy livelihoods of their fellow countrymen and women, the Filipino population has developed a culture of donating and giving to people in need. Such a social notion was also fuelled by the strong religious communities. Subsequently, immediate support (in-kind and cash) was provided in many parts of the country. However, the surviving local population in the affected areas who is usually the first ones to respond and help their neighbors was unable to do much due to the enormity of the devastation as they were victims themselves. Humanitarian agencies reported later that it was very hard to find local people from the region during the initial response phase to help particularly in the translation into local dialects and distributing relief since more or less
everyone who came from this region was also heavily affected and recipient of aid. The lootings that occurred during the first few days also showed that many people were fighting for survival. During this time, beneficiaries faced the option to queue for hours or days to only potentially receive supplies while other household members chose to loot from stores and warehouses to feed their immediate family members. One of the few good messages in those days was that the Bohol island where an earthquake killed 200 people in October was spared from Typhoon Yolanda.

Among the first ones who entered into this highly chaotic, inaccessible and insecure environment were the military troops from the Philippines, U.S., British and Australian Army who had the necessary equipment such as helicopters on hand. The U.S. aircraft carrier George Washington with 6,000 sailors on board was navigated into the affected area from Hong Kong. The initial focus included surface maritime search and rescue (SAR), medium-heavy helicopter lift support, airborne maritime SAR, fixed-wing lift support and logistics enablers. As of 29th of November 2013, the U.S. Military managed airfields, purified water, distributed relief supplies and evacuated about 20,000 Yolanda survivors. The U.S. military handed over the operations to the Philippine military 3 to 4 weeks after the disaster onset, where the latter have already assumed responsibility for naval and air operations supporting relief efforts that included forces from 15 countries.

As many international humanitarian agencies already have existing emergency relief and/or long term development programmes in the Philippines for many years, they were able to act quickly and started to pull in resources from all over the world within a few days after landfall. Despite their widely stretched resources with various on-going operations such as the Syria crisis, all the big UN Agencies (e.g. Unicef, World Food Programme and UNHCR), Red Cross societies and international NGOs (e.g. World Vision, IOM, Plan International and Save the Children) managed to mobilise their emergency teams within the first 2-3 days. Various Clusters such as Logistics, Shelter and Food were activated to coordinate and streamline the extensive relief efforts between humanitarian agencies and channel the communication to the Military and Government. Despite the quick mobilisation, the inaccessibility to the affected areas confronted many of the responding actors with enormous challenges and caused significant delays in the distribution processes.

The Philippines is a country with a long tradition and wide landscape of local NGOs. In the immediate aftermath of the typhoon they mobilised quickly between themselves to send relief supplies to the affected regions. Local NGOs ranged from faith based NGOs to independently managed NGOs. As local NGOs maintain a capacity and networks in the region, they were able to mobilise efficiently, by tapping into their existing networks to conduct their respective relief operations. Attempting to their best ability to adhere to the SPHERE project standards (A Humanitarian Charter and Minimum Standards in Humanitarian Response [4]) of delivering humanitarian assistance their processes are similar to those of international NGOs, but on a smaller scale. Local procurement for relief items was conducted, however, local
stores were not able to meet all the demand. The majority of the local NGOs was faith based and utilised their networks through formal and informal institutions. For example, smaller Catholic communities sought to coordinate with formal NGOs such as Catholic Relief Services (CRS) and the Philippine Red Cross. Local NGOs were also not always favorable working with government institutions as there would be too much ‘red tape’, which would delay the delivery of supplies to the beneficiaries.

During the first weeks, local and international media reported extensively on the devastating power of one of the strongest Typhoons ever and the pictures of the destroyed houses and suffering people went around the globe. Some of the local TV and radio channels reported almost 24/7 from the affected regions and the on-going relief efforts. Online communication via Twitter and facebook as well as manifold websites and situation reports put all responding actors in a spotlight as most likely never before.

The scale of the disaster, the obvious need for help from abroad and the global media attention led to a quick initiation of global funding mechanisms. Both traditional institutional (e.g. US, Canada, EU, Australia and Japan) and private (e.g. individual households) donors responded swiftly and generously to support the relief efforts.
Supply Chain Analysis

Needs Assessment

A combination of the enormity in destruction and the geographical location of islands in the affected areas made accessibility difficult for initial assessments to be conducted. Announced as the strongest typhoon ever, there were slight hopes the following day that the impact was not as bad as expected, however, this was not the case. Media information was not reliable in the beginning due to lack and breakdown of communication. The immediate on-set of the disaster claimed that 10,000 people had died from the typhoon, however, this number fluctuated and was muffled in the following days.

The responding actors sent out their assessment teams a few hours after the typhoon had made landfall and satellite pictures (Figure D) taken from helicopters and planes provided first information on the magnitude of the destruction.

Assessment teams were limited due to accessibility constraints and destroyed air and seaports. Therefore, organisations were only able to send limited essential personnel comprised of generalists and specialists. Assessment teams were dispersed to affected areas and were tasked to locate and coordinate with Barangay Chairmen. The Chairmen and Barangay officials would assist in gaining feedback on the extent of damages and needs requirements. Local NGOs even indicated that Barangay officials knew the specific rooms that needed repairs or reconstruction.

The aim in coordinating with the Barangay Chairmen and officials was two-fold. Firstly, working with the Local Government Units should be done because ultimately the Government of the Philippines ‘owns’ the response. All humanitarian actors are merely there to support the government. Secondly, it facilitated the response by getting specific distribution lists of the affected areas and ensured that people from other regions do not attempt opportunistic behavior by siphoning off supplies. This also added as an accountability and monitoring platform that may be transmitted to donors.
Although not all, organisations usually have an elaborated assessment ‘tool kit’ that was used in the initial needs assessment of Typhoon Yolanda. Such a ‘tool kit’ or manual assists personnel to ensure that all the relevant information is collected. An example is OCHAs needs assessments, the Multi-Cluster/Sector Initial Rapid Assessment (MIRA), which is aimed to identify strategic humanitarian priorities during the first weeks following an emergency [6]. Similarly, international and local NGOs conducted their needs assessments using their own guidelines. The ‘tool kits’ are usually subject to the NGOs’ strategic objectives in the efforts to assist the survivors. Plan International for example, has a Children centric ‘tool kit’ to collect information based on specific programmes that they have. Also, depending on the circumstance, assessments can go on for two or more days, as information would need to be verified by primary and secondary sources. Underpinning all of the assessments, are the agreed upon assessment tools that have been developed in the various clusters. Individual agencies then add on to those tools, to meet their specific information needs.

Based on the findings of the assessments, reports and lists were drafted, documenting the types and quantities of needed relief items, the names of the municipalities, the number and names of affected families in need among others. Response teams on the ground then translated the information into a supply lists and forwarded them to the Procurement and Logistics departments to supply and deliver as needed.

The most life threatening issues, gaps and needs were identified as follows:

- Lack of safe drinking water
- Lack of shelter
- Trauma injuries
- Other acute medical conditions
- Disruption of treatment for severe acute malnutrition and for severe acute diseases
- Insufficient food
- Lack of sanitation and personal hygiene items
- Lack of household items and supplies
- Air and sea transport of relief goods and personnel
- Emergency telecommunication
- Temporary electronic power and fuel
- Debris removal

On behalf of the humanitarian community, UN OCHA presented below action plan to respond to the identified needs (as of 22 November 2013) [7]:

- Immediate water, sanitation and hygiene for 500,000 people (installation of water bladders, water points and mobile water treatment units; rehabilitation of water supply systems; distribution of water and hygiene kits; water quality surveillance; construction of gender-segregated emergency latrines and bathing facilities; management of solid waste).
• Essential health services for up to 9.8 million people (medical/surgical consultations; reproductive health; mental health; psycho-social support; health promotion; immunization; disease surveillance and outbreak control; restore referral system from community health facilities to higher levels of care; establish temporary health facilities and services; repair or rehabilitate damaged health facilities; deliver the Minimum Initial Service Package including maternity tents and hospital delivery room “containers”; mobile health teams).

• Nutrition services for 100,000 children and 60,000 mothers (provision of nutrition supplies for therapeutic feeding, micronutrient supplements and equipment; rapid nutrition assessments and screening; community-based therapeutic feeding centres for girls and boys with severe acute malnutrition integrated into local health systems).

• Food aid for 2.5 million people (general food distribution of food basket containing rice and ready-to-eat high-energy biscuits; emergency food-for-work and cash-for-work to help kick-start early recovery activities and rebuild livelihoods).

• Shelter and urgent household items for 562,000 people (tarpaulins, basic tools and other inputs to repair damaged and makeshift shelters, and tents for displaced people; non-food items such as family kits, sleeping kits, sanitization and hygiene kits; care and maintenance of existing evacuation centres and transitional sites).

• Immediate short-term employment for at least 200,000 women and men towards the removal and safe disposal of debris; support the rehabilitation of solid waste management facilities and operations.

• Coordinated road and sea transport support; temporary storage at Cebu Airport, Tacloban and across the affected areas; deployment of fully operational communications centres that will provide both data/Internet service and common security communications service to the humanitarian community in Cebu, Tacloban and Roxas city, and two other locations.

An estimated budget of USD 348 Million is needed to implement the action plan from 13 November 2013 to 31 May 2014. Below table shows the breakdown of budget by Cluster activity:

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Revised Requirements ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCOM</td>
<td>5,500,000</td>
</tr>
<tr>
<td>Coordination</td>
<td>2,627,537</td>
</tr>
<tr>
<td>Early Recovery</td>
<td>20,000,000</td>
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<tr>
<td>Education</td>
<td>24,721,443</td>
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<tr>
<td>Emergency Shelter</td>
<td>45,665,061</td>
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<tr>
<td>Emergency Telecommunications (ETC)</td>
<td>3,244,537</td>
</tr>
<tr>
<td>Food Security and Agriculture</td>
<td>112,563,544</td>
</tr>
<tr>
<td>Health</td>
<td>38,066,310</td>
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<tr>
<td>Livelihood</td>
<td>33,223,562</td>
</tr>
<tr>
<td>Logistics</td>
<td>5,000,000</td>
</tr>
<tr>
<td>Nutrition</td>
<td>12,000,000</td>
</tr>
<tr>
<td>Protection</td>
<td>13,139,914</td>
</tr>
<tr>
<td>Security</td>
<td>874,974</td>
</tr>
<tr>
<td>WASH</td>
<td>31,000,000</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>347,628,802</strong></td>
</tr>
</tbody>
</table>

Table A Source [7]
Sourcing

Generally the responding actors had three different options to source for relief supplies. Firstly, the usage of pre-positioned stocks in the country and other parts of the world. Secondly, in case of existing emergency funds and provision of cash donations, the organisations started procuring on local markets as well as abroad. Thirdly, there were enormous quantities of relief items which were directly donated to the organisations to be distributed in the affected areas, so called Gifts In Kind (GIK).

Two weeks after the Typhoon had made landfall, the humanitarian community received and pledged funding amounting to USD 134 million which is equal to 38.6% of the overall funding required (USD 348 million) to complete the humanitarian action plan from November 2013 to May 2014.

This timely provision of funding from donor side was certainly one of the reasons why humanitarian relief agencies managed to mobilise quickly. Other reasons were the so called “emergency funds” many agencies hold nowadays which allows them to cover the initial expenses of deployments of their teams and first batch of relief items. In addition, most of the big relief agencies also keep standard items and kits pre-positioned at strategically located warehouses close to international airports. Three of the United Nations Humanitarian Response Depots (UNHRD) in Dubai, Kuala Lumpur and Brindisi (Italy) managed by WFP and used by various humanitarian agencies played in this context an important role for the Typhoon Yolanda response operation. As of 06 December 2013, 1395 metric tons of relief cargo such as high energy biscuits, mobile storage units, prefabricated offices, generators and radio equipment with a total value of USD 7.6 million [8] were dispatched from the Depots and shipped to the Philippines. As of 21st January 2014, over $22 million USD worth of in-kind donations weighing more than 6.8 million kilograms have been provided or were committed to the assistance. Below table from UN OCHA gives an overview of in-kind donations received:

<table>
<thead>
<tr>
<th>Item Type</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Baby kit</td>
<td>95,000</td>
<td>unit</td>
</tr>
<tr>
<td>Total Blanket</td>
<td>220,207</td>
<td>unit</td>
</tr>
<tr>
<td>Total Chainsaw</td>
<td>12</td>
<td>unit</td>
</tr>
<tr>
<td>Total Emergency Health Kit</td>
<td>28</td>
<td>unit</td>
</tr>
<tr>
<td>Total ERU, Health care</td>
<td>3</td>
<td>unit</td>
</tr>
<tr>
<td>Total ERU, Logistics</td>
<td>14</td>
<td>unit</td>
</tr>
<tr>
<td>Total ERU, Water &amp; Sanitation</td>
<td>8</td>
<td>unit</td>
</tr>
<tr>
<td>Total Field hospital</td>
<td>12</td>
<td>unit</td>
</tr>
<tr>
<td>Total Generator</td>
<td>24</td>
<td>unit</td>
</tr>
<tr>
<td>Total High protein biscuit</td>
<td>108,000</td>
<td>kg</td>
</tr>
<tr>
<td>Total Household kit</td>
<td>42,000</td>
<td>unit</td>
</tr>
<tr>
<td>Total Hygiene kit</td>
<td>141,662</td>
<td>unit</td>
</tr>
<tr>
<td>Item</td>
<td>Quantity</td>
<td>Unit</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------</td>
<td>------</td>
</tr>
<tr>
<td>Total Jerry can</td>
<td>404,177</td>
<td>unit</td>
</tr>
<tr>
<td>Total Kitchen set</td>
<td>30,541</td>
<td>kit</td>
</tr>
<tr>
<td>Total Latrine</td>
<td>946</td>
<td>unit</td>
</tr>
<tr>
<td>Total Mattress</td>
<td>2,314</td>
<td>unit</td>
</tr>
<tr>
<td>Total Medical supplies</td>
<td>894,926</td>
<td>unit</td>
</tr>
<tr>
<td>Total Mosquito net</td>
<td>27,264</td>
<td>unit</td>
</tr>
<tr>
<td>Total Plastic roll</td>
<td>7,448</td>
<td>unit</td>
</tr>
<tr>
<td>Total Plastic sheeting</td>
<td>334,830</td>
<td>unit</td>
</tr>
<tr>
<td>Total Rope</td>
<td>2,060</td>
<td>unit</td>
</tr>
<tr>
<td>Total Shelter Box</td>
<td>17,688</td>
<td>kit</td>
</tr>
<tr>
<td>Total Soap</td>
<td>17,798</td>
<td>unit</td>
</tr>
<tr>
<td>Total Tent</td>
<td>27,556</td>
<td>unit</td>
</tr>
<tr>
<td>Total Tool kit</td>
<td>20,100</td>
<td>unit</td>
</tr>
<tr>
<td>Total Water disaster response kit</td>
<td>2,008</td>
<td>unit</td>
</tr>
<tr>
<td>Total Water proof clothing</td>
<td>4</td>
<td>unit</td>
</tr>
<tr>
<td>Total Water pump</td>
<td>27</td>
<td>unit</td>
</tr>
<tr>
<td>Total Water purification tablet</td>
<td>21,447,200</td>
<td>unit</td>
</tr>
<tr>
<td>Total Water purification unit</td>
<td>182</td>
<td>unit</td>
</tr>
<tr>
<td>Total Water tank</td>
<td>321,142</td>
<td>unit</td>
</tr>
<tr>
<td>Total Water tap stand kit</td>
<td>3</td>
<td>unit</td>
</tr>
<tr>
<td>Total Water testing accessories</td>
<td>20</td>
<td>unit</td>
</tr>
</tbody>
</table>

Table B Source [9]

The devastation of Typhoon \textit{Yolanda} saw the need to allow for negotiated procurement measures. The Department of Budget and Management (DBM) announced that the Government Procurement Policy Board (GPPB) had given the green signal for emergency procurement measures on 14\textsuperscript{th} November 2013. The GPPB issued Resolution No.34-2013, where agencies directly involved in post-\textit{Yolanda} rescue relief and rehabilitation operations may procure service through Negotiated Procurement rather than the traditional Competitive Procurement [10]. The Negotiated Procurement allows the government to award a contract to a contractor with a track record of technical expertise or efficiency in service delivery. This allowed implementing agencies such as the Department of Social Welfare and Development (DSWD), the Department of Interior and Local Government (DILG), and the Department of National Defense (DND) to secure goods or services directly from a supplier that has proven reliable and trustworthy in the implementation of previous projects.

Large donor organisations such as USAID also contributed to the assistance by providing cash and/or in-kind donations. By 14\textsuperscript{th} November 2013, United States Government (consisting of USAID’s Office of U.S. Foreign Disaster Assistance (USAID/OFDA), USAID’s Office of Food for Peace (USAID/FFP) and U.S. Department of Defense (DoD)) provided assistance of over $22 million USD to the Typhoon Yolanda relief operation. USAID/OFDA has provided nearly $1.6 million for WASH (Water, Sanitation, Hygiene) activities in affected areas. USAID/OFDA
partners were providing point-of-use water treatment solutions for household-level treatment and utilizing bulk chlorine for larger-scale treatment, as well as providing water containers to assist with distribution. Additional USAID/OFDA supported WASH activities include improving the availability of safe drinking water by mobilizing water tanks, installing mobile water treatment units, and establishing communal water points, as well as restoring access to latrines and conducting hygiene promotion activities.

Towards the end of the first week, approximately 55 MT of USAID/FFP emergency food commodities - airlifted from a USAID/FFP warehouse in Miami, Florida - had arrived in Cebu and were en route to Tacloban. The food commodities, comprising nutrition-dense food bars and other food items that do not require cooking, are sufficient to feed 15,000 adults and 20,000 children for five days.

Through a cash contribution, USAID/FFP enabled WFP to purchase 2,500 metric tons of rice in local markets for inclusion in the family food packs that the Department of Social Welfare and Development was distributing to typhoon-affected populations. On November 13, nearly 50,000 people in Tacloban city and nearby areas received the 3 food packs, which supply more than 6 pounds of rice and canned goods—an amount adequate to feed a family of five for up to three days. The USAID/FFP funds have also allowed WFP to procure 555,000 packets of high-energy biscuits, which arrived in Tacloban on November 13 for onward distribution to evacuees and other vulnerable populations in typhoon-affected areas. [11].

In December 2013 more than 10,000 tons of rice have been provided by the Filipino Government to WFP from two of their National Food Authority warehouses in Mindanao (General Santos and Cagayan de Oro). WFP shipped the food to the affected areas where it was handed over to various partner NGOs for the final distribution.

Local procurement was taken up by relief organisations to the best of their ability. Some organisations sourced from nearby unaffected or least affected cities to procure necessary supplies. However, the leading constraint was insufficient capacity. Local vendors did not keep enough shelved stock to fuel the demand surge caused by Yolanda. Procurement was also stifled by the competition from other relief organisations also seeking to procure locally. Many organisations procured supplies from Manila, as it was easier to meet the capacity and furthermore make it ready for distribution. Manila suppliers were in most cases able to source from unaffected regions to meet the demand surge and relief organisations were able to repack and transport needed supplies to the affected regions.

Delays in the local procurement process were reported due to procurement policies of many relief organisations which consist of minimum three quote regulations. Some of the suppliers were so busy creating quotes that organisations had to wait for more than 3 weeks to receive the quotes. At some point, when the procurement of relief items had reached its peak, it became difficult for relief organisations to procure anywhere, both locally and internationally. Certain types of products were completely sold out worldwide.
Transportation

Humanitarian organisations and Government bodies utilised all possible means of air, sea and land transportation to deliver the urgently required relief commodities. Transportation was generally provided by military and commercial carriers or through inter-agency services. Due to severe infrastructure damages (bridges, roads etc) in the affected areas, the last mile distribution proved to be the most challenging task.

During the first weeks, most of the international cargo came in by air via Manila International Airport, Cebu International Airport and Tacloban Domestic Airport after its restoration.

On the customs and import regulations, the Government of the Philippines had put into place a “One-Stop-Shop” to expedite humanitarian customs clearances in Manila, Cebu and Tacloban. The purpose of the “One-Stop-Shop” was to bring together in a single location the key staff, necessary for expediting customs clearances for humanitarian cargo, for the selected agencies including representatives of the Department of Social Welfare and Development (DSWD), the Department of Health (DOH), The Bureau of Food and Drugs (BFD) and the Department of Foreign Affairs (DFA). Shipping documentations had to indicate DSWD as consignee to the shipment. A Deed of Donation to DSWD had to be provided to a designated DSWD representative. The humanitarian relief organisations then received a Letter of Acceptance from DSWD. The mechanism made the processing and custom clearance smooth for the registered organisations, which included United Nation Agencies, International Red Cross Societies and other international NGOs. Organisations that were not yet registered in the country could partner with a local organisation or register easily. All in all, with this “One-Stop-Shop” the process of bringing relief cargo into the country was reported to work smoothly and rarely took longer than a day.

Manila airport was certainly best equipped to handle the in-coming freight and no serious congestions were observed. Once loaded on trucks, the transport period to the affected areas was relatively long though. The road from Manila to Tacloban via Sorsogon to Samar Island, and then onward through Samar Island was accessible with a transit time of 1.5 to 2 days for light vehicles (Figures E and F).

Therefore, many relief organisations decided to send their cargo to Cebu which was far closer to the respective distribution spots and both airport and seaport were fully functional. Cebu became quickly the logistics hub for many UN agencies and international NGOs. The subsequent enormous quantities of incoming freight led to congestions both at air- and seaport which were not properly equipped to handle the cargo. Limited storage space and insufficient number of pallets and forklifts were reported to be some of the bottlenecks. And even when the relief cargo made its way out of the airport, the trucks were stuck at Cebu port.
due to the limited number of vessels and ferries which could bring the trucks to the affected islands.

Tacloban airport and seaport were described as completely destroyed following the storm. Repair teams got deployed to restore basic services to begin operations so that urgently needed deliveries of relief goods could be received. However, during the first days until the airport was completely reopened, the runway could be only utilised by small civilian aircraft (used to support the evacuation of victims) and by military aircrafts (mainly the Philippine and US Air Forces). Compared to Cebu, Tacloban airport was lacking in equipment to receive, handle and store the cargo properly. Military equipment has been used in the first two weeks to fill the gap until the humanitarian community (through the Logistics Cluster) received heavy lifting equipment (including a high loader) from international donors. Once cleaned up, the sea port of Tacloban became quickly operational again but with limited capacity, considering that it was not built to handle heavy cargo. By the third week, various foreign military assets were retracting their resources, and operations changed hands to the Armed Forces of the Philippines (AFP).

Many survivors of Typhoon Yolanda lost almost everything and decided to leave Tacloban, Guiuan and other affected places to find their way to safer and more secure places in the country. Subsequently, while congestions could be observed for incoming cargo, people were lining up at the airport and ports to catch one of the out-going flights or ferries. In particular at seaports, this has led to overbookings and authorities had to decide whether the priority was on people trying to escape or on returning empty trucks to get refilled with relief cargo.

During the first days after the disaster, the responding actors had to rely heavily on military support and assets to reach the affected areas for their assessment missions and to provide the urgently required relief. Military air assets were deployed to support search and rescue operations and the transport of relief items. Priority for these assets was to support medical needs of the affected population. US Military forces offered transport by air by both fixed wings and helicopters. The destinations were driven by demand. Organisations who wanted to use military assets for transport of their cargo had to complete a “Logistics Service Request”. Those requests got channeled through the Logistics Cluster.

The other option to move cargo and passengers came in shortly after. Inter-agency services provided among others by the Logistics Cluster and the United Nations Humanitarian Air Service (UNHAS) filled existing gaps for all kind of transportation. To overcome the limited capacity on water transportation, WFP contracted and chartered various barges and vessels such as a “Roll-on / Roll-off” ship (capacity of 2,400 MT) to sail from Cebu to Tacloban.

The Roll-on / Roll-off ship was operational as of 21 November 2013 and has been made available to the humanitarian community through the Logistics Cluster.

UNHAS contracted two small fixed-wing aircraft (9-seat PC 12s) on an ad hoc basis which turned out to be not sufficient. Subsequently, a dedicated 9-seat King Air 350 was brought in and
based in Cebu to serve Roxas, Ormoc and Guiuan. Two Sikorsky 76 helicopters got positioned in Cebu to provide additional airlift. For all inter-agency services, request forms had to be completed and were approved based on availability and priority of relief items.

The military and inter-agency services were considered as effective but should nevertheless be seen as last resort due to limited capacity, the enormous costs of deployment and an ‘extra layer’ to service beneficiaries. For this reason, the responding actors were asked to utilise the local commercial transport sector as much as possible. At some point in the early phase of the response transport by trucks became a real problem, since there were just not enough trucks available at certain places. Furthermore, some of the larger trucking companies could not get their trucks insured and therefore refused to enter into contracts with international humanitarian organisations. After 10-14 days the commercial transport companies started to pick up and increased their capacity in and around the affected areas. This allowed the military to start demobilising.

Nevertheless, the three options (military, inter-agency and commercial sector) were reported in several cases as insufficient to move the cargo to its final destination and created high amounts of competition between responding actors.

On the devastated islands, fuel became another serious bottleneck and had to be taken into consideration when relief operations were planned. Relief organisations had to bring in fuel from other islands and parts of the Philippines (e.g. Mindanao) and the non-profit organisation Fuel Relief Fund started to provide free fuel to keep the operations on-going. Furthermore, organisations contracted out services to commercial logistics providers that included the cost of fuel. During the first days, gas stations were overtaken by survivors and were sold at marked up prices (e.g. PhP 3000 per 10L) to other survivors trying to fuel vehicles in attempts to reach Cebu and other ports that were transporting survivors to Manila.

Maps of the main access constraints (Figure E) and the Concept of Operations (Figure F), which provides an overview on the various transport corridors and entry points were developed and updated on a regular basis by the Logistics Cluster and shared with the community during the cluster meetings and on their website.
Figure E
Source [12]
Figure F
Source [13]
Warehousing

Due to the enormous quantities of relief freight, bottlenecks in transportation at critical transshipment points such as air and seaports as well the destroyed storage facilities in the affected areas, warehousing became a critical factor of the relief efforts. If available, the responding organisations secured existing warehouses (e.g. at Cebu airport and Cebu industrial area). In the affected areas where warehouse space became quickly a serious shortage, common solutions were the usage of alternative facilities such as schools and community halls or the erection of Mobile Storage Units (MSU).

Main issues reported on the temporary warehousing were inadequate security, missing handling material (e.g. pallets), limited accessibility by trucks and vulnerable to bad weather conditions.

The Logistics Cluster established various MSUs at strategic places close to airports and seaports and made them available for interagency use on short-term basis. In Tacloban, one MSU (240 m²) was available for transit storage at the airport. More MSUs were setup in a compound in Palo, located three kilometres from Tacloban airport and six kilometers from the seaport. The compound held up to fourteen 10x28 m MSUs and 10x24m MSUs. The compound space had also existing allocation for other organisations to setup their own MSUs. At Cebu, one warehouse of 2,000 m² at Free-zone was utilised (two MSUs of 700 m²). Furthermore, one MSU (320 m²), two MSUs (480 m²) and another two MSUs (560 m²) have been established in Roxas, Ormoc and Guian respectively. Lastly, as of 9th December 2013, National Food Authority (NFA) has made available a warehouse (2,250 m²) for inter-agency usage in Roxas.

Although the utilisation of Logistics Cluster warehousing was free, some of the international NGOs sought not to depend fully on the free service, because they saw the risk of a queue for goods to be delivered out. This warehousing option was perceived as a ‘public good’, thus creating various levels of uncertainty when planning for distribution. Furthermore, breakdown of information mechanisms between agencies could also cause distribution to be delayed.

Complementary to warehousing, supporting assets were required to manage stocks in MSUs or warehouses. This includes forklifts and qualified personnel to operate such technical machinery. Often the pallets from C-130s did not match pallets in storage facilitates, causing a slow-down to move supplies accordingly. The initial presence of military forces filled the requirements to operate these services, however, as military forces retract their presence, the demand for skilled technicians and operators increased. Bottlenecks at warehouses impede incoming air freights from coming into domestic airports such as the Tacloban domestic airport. This affected the overall supply of relief items.

In many cases warehouses did not only serve as storage facility but also for re-packing purposes to make goods and supplies ready for distribution.
Distribution

The first relief which reached the affected population in the Visayas had either been taken from existing stocks which some humanitarian organisations held for other programmes in the region or had been flown in mainly by helicopter (e.g. High Energy Biscuits). In addition to supplies being distributed, a voucher system was used by some organisations, including local government units, to initiate the distribution of supplies. Each voucher mainly consisted of 2kgs of rice, coffee powder, chocolate powder, instant noodles and milk powder. The voucher was aimed at feeding a family for one day, however, the equal distribution failed to address that families were of different sizes. Furthermore, relief supplies and vouchers were delivered with bias at times. The terminology ‘coloured’ biased was used by most of the beneficiaries. Beneficiaries noted that they needed to be ‘connected’ with the Barangay officials to gain preference to receive a voucher. Furthermore, there were situations where voucher were handed out timely but distribution of supplies arrived 7 days after landfall, by which time beneficiaries were already en route to Manila to meet and be with relatives.

Political bureaucracy contributed to the stalling of the distribution of supplies. Beneficiaries were aware that supplies had arrived at various locations, however distribution did not begin until LGU officials had settled personal matters. Lines to receive relief supplies were long and could span up to 2 or 3 days, which made looting a more viable option in the first week. Beneficiaries also used supplies as a means to trade for other goods. For example, some families with infants that required milk powder or baby formula traded other supplies to get what they needed. It was important to note that supplies are not only a means for physiological survival, but a medium term economic benefit.

Apart from the very first days when looting caused an unsecure situation, the affected population helped with their patience, discipline and friendly manner to facilitate the relief efforts at a very high level. The motivation to re-build their livelihood and become again self-sustainable and reliant as soon as possible could be observed. As the situation was constantly changing, every responding actor had their respective distribution channels. Nonetheless, various platforms such as the cluster meetings allowed organisations to communicate their target distribution areas. This reduced distribution duplication inefficiencies and improved inter-agency coordination. The actual distribution has mainly been done by international and local NGOs which also acted as implementing partner for UN agencies and Governments or from the municipalities themselves.

From a local stand point, when the relief supplies are on the ground, a representative from the various organisations would search for the Barangay Chairman or LGU to coordinate supply distribution. At times verification of a Barangay official was difficult and thus agencies hired personnel that spoke the local language to liaise supplies distribution. LGUs understood the situation best and were equipped with the information to formulate the distribution lists.
Subsequent to the information, relief goods were distributed in the established evacuation centres as well as public places such as churches or schools but also directly from the trucks. Generally the distribution process worked smoothly since the beneficiaries showed a lot of patience and discipline.

Since many of the affected population wanted to start re-building their destroyed livelihood very soon after the disaster, some incidents were reported when former evacuation centres and dedicated distribution spots were found empty when the relief arrived. The people had already gone back to their former homes.

There were many remote areas that were affected by Typhoon Yolanda which required military assistance. Helicopters dropped emergency supplies to desperate villagers in remote islands and mountain communities. The usage of helicopters were kept for delivering supplies to these remote areas, however, they were forced to hover at a low altitude and drop cartons to the survivors. This method of distribution was unsuitable because survivors are not equipped to receive supplies with the force of a rotary blade pushing against them. In some cases, the force was great enough to destroy the contents of the relief supplies. Where possible, helicopters would airlift and transfer supplies to trucks, which would reach remote communities for distribution. Water bound vessels were also used to distribute supplies to coastal villagers. International NGOs attempted to acquire such vessels in the initial on-set of the disaster, however, supply and personnel with technical skills were limited. Alongside to this, religious communities also formed their own supply chain independent of any formal institution. Their connections were mainly through the archdiocese and community parishes that were able to mobilise themselves in the affected areas. They received supplies from adjacent religious networks in unaffected areas. Smaller scaled NGOs ensured that the relief items matched the packing requirements of larger NGOs. This was to facilitate the smooth flow of supplies and reduce the need to re-pack at different stages.

Heavy rainfall in January 2014 was reported to hinder transportation, warehousing and distribution processes for many days and caused damages among others at food supplies such as rice deliveries.

Once the local markets in the Visayas started to recover, more and more organisations switched their programs from actual provision of relief items to cash and voucher systems which become increasingly a trend also in other humanitarian operations worldwide. The development has certainly a huge impact on traditional logistics and distribution processes and the Yolanda case will show how reliant and effective this relatively new way of providing assistance can be.
Coordination

The initial coordination of international agencies into Philippines was through the Department of Foreign Affairs (DFA). A task force was setup to coordinate international agencies into the Philippines. The DFA was the organisation that had setup the ‘One-Stop Shop’. As the UN clusters were activated, international agencies were able to liaise with the respective departments to coordinate. For example, an agency seeking to import and distribute medical related supplies will go through the DFA and be directed to the Department of Health (DOH) for coordination.

The Philippines has an independent agency (NDRRMC – Figure G) to coordinate the relief operations, illustrated in the diagram below. The NDRRMC is chaired by the secretary of the Department of National Defense (DND). The organisational structure was such that a specific department would have responsibility for each phase of the disaster life cycle. The Department of Interior and Local Government (DILG) was responsible for preparedness, the Department of Social and Welfare Development for response, the Department of Science and Technology (DOST) for prevention and mitigation, and the National Economic and Development Authority (NEDA) for rehabilitation and reconstruction. Although the council has been in practice through many disasters, there were still multiple gaps. As the council was made up of persons from existing government institutions, there was a duplication of roles and direction was unclear. Furthermore, in the on-set of Yolanda, the chairperson had flown to Tacloban to assess the situation, leaving the vice chairpersons helpless to make any executive decisions because communications were not functioning in affected areas.

Many actors from different sectors (local Government, media, relief organisations and institutional donors) collected information and provided them to a broad audience. Whilst helpful, during the first days, the information was often inaccurate and/or time lagged, making coordination based on such information unreliable. NDRRMC assisted to coordinate specific information on the deceased and affected, which monitored the unfolding of the disaster. Specific information such as names, age, gender and origin assisted relatives elsewhere to gain information or closure. Overall, although there were many information channels, sourcing of information was done independently.
Cluster meetings were coordinated by the UN and partner NGOs to facilitate large actors to work together or at least be aware of on-going operations. The Cluster meetings acted as a platform for responding actors to meet each other, share and utilise resources and divide the affected area geographically and by sector of activity (shelter, health, water and sanitation). The Clusters encouraged the organisations to provide information on the results of their assessments, to share; where they want to operate, what items they are distributing, how many beneficiaries they are targeting, what resources they have available, etc. The collected data was then depicted in various reports and maps (Figures H-J).

Coordination meetings were not only conducted in Manila, but also in cities close to actual operations such as Tacloban, Ormoc, Guiuan and Roxas. Meeting minutes were published and made public to ensure transparency between relevant parties. Cluster meeting frequency was high in particular during the first weeks and the overall coordination was judged predominantly as very positive. Only few incidences were reported where two organisations showed up in the same area to distribute the same items.
Figure J
Source [17]
Information and Communication Technology

Most of the affected areas were without any kind of telecommunication during the first days after the typhoon and at some remote places telecommunication was down for weeks. Beneficiaries mentioned that ‘PhilCom’, a service provider, was online as of 11th November 2013 in certain elevated areas. Beneficiaries used mobile phones and social media to communicate with the external world whenever possible. Relief organisations on the ground used mobile internet devices to setup internet connection in remote areas. It was seen as a form of aid to contact loved ones.

The Emergency Telecommunications Cluster (ETC) was also activated, and provided basic data and voice connectivity services at Tacloban airport between 9th and 12th November 2013. This assisted in the communications for incoming logistics to Tacloban airport. By the 13th of November 2013, VSAT equipped has been delivered to Tacloban airport. This device allows access to mobile internet. Furthermore, an agreement with NetHope (Consortium of 41 NGOs) had been reached to provide ETC services to the NGOs. The main issues were accessibility to remote affected areas and a sustainable fuel source for power generators.

Connectivity was important for accurate information communication between Manila based staff and staff in the field. It was not only a channel to provide needs assessments information, but also for verification purposes. When telecommunications service providers re-established their networks, agencies reverted to using their mobile phones to communicate with each other. Internet connectivity also assisted beneficiaries and local NGOs to communicate through social media platforms such as Twitter and Facebook.

OCHA engaged with an organisation, MicroMappers [18], to attain information on infrastructure damage in the affected regions using social media platforms to get pictures of affected areas. MicroMappers reached out to ‘digital humanitarian volunteers’ to verify the credibility of Tweets. Tweets were also triangulated to specific areas for better mapping. Their website [19] shows how MicroMappers created a dashboard to reflect the affected areas on a map. Although this method assisted in getting information, Twitter and other forms of social media was only accessible to areas with service coverage.

NetHope is a consortium of the world’s largest non-governmental organisations (NGOs). 22 NetHope member organisations responded to the Typhoon Yolanda emergency. NetHope’s primary role was to work with others (NetHope member NGOs, the Government of Philippines, the UN, technology sector supporters, and other nonprofit organisations) to restore communications capabilities. NetHope enabled data services in Roxas City and Estancia on Panay island through VSAT terminals by 24th November 2013. Furthermore, Satellite phones were distributed to NetHope member organisations for communications. Below is an illustration of the ETC and other various organisations’ response to Typhoon Yolanda.
Figure K
Source [20]
Plan International Case Study

Founded over 75 years ago, Plan is one of the oldest and largest children's development organisations in the world. The organisation works in 50 developing countries across Africa, Asia and the Americas to promote child rights and lift millions of children out of poverty. In 2013, Plan worked with 78 million children in 90,229 communities. Plan is independent, with no religious, political or governmental affiliations.

Plan International works to promote child rights and lift millions of children out of poverty is based around 8 core areas in Education, Health, Water and Sanitation, Protection, Emergencies, Economic Security, Child participation and Sexual health including HIV. During emergencies Plan works to protect the rights of children and young people. In 2013, Plan provided life-saving humanitarian assistance, protection, education and emotional support in 54 disasters across the world, focusing on children’s long-term needs, providing relief, recovery programmes and developing disaster risk reduction strategies.

Country offices are located in the areas where the programmes are implemented to allow response to the situation of the local communities. Central services that support the programmes implementations are provided by Plan Limited, a wholly owned subsidiary of Plan International, Inc.

Plan International in the Philippines

Plan International Philippines (PIP) [21] has been operating in the country since 1961 helping poor children to realise their rights to health care, education, protection and a high quality of life in 420 communities with more than 80,000 families benefitting from various projects through six Programme Units (PU) offices across the Philippines in Masbate, Occidental Mindoro, Eastern Samar, Western Samar, Northern Samar and Southern Leyte.

Plan International has been working in the Visayas for a long time and therefore had response teams and relief goods on the ground. In the sudden on-set of Yolanda, some of their distributions started on the afternoon of the typhoon, along with other resources and staffs to assist the needs of Yolanda Emergency Response. Thus, a separate in-country Go Team and various Emergency Response Teams (ERT’s) were activated from various parts of the Asia region and Global Roster to play critical roles in the response.
Typhoon Yolanda Response

Plan launched an initial USD 25 million appeal to provide immediate relief to typhoon survivors for 6 months. But following further rapid assessments of impacted communities, it has been scaling up a larger, 5 year operation with an overall budget of USD 75 million. All of Plan Philippines’ programme units, home to about 40,000 sponsored children, have been affected across four provinces (Eastern Samar, Western Samar, Cebu and Leyte). Plan placed vital supplies of NFIs at its PU offices before Yolanda hit, enabling thousands of shelter and water kits to be distributed immediately. As of 01 December 2013, it had delivered additional aid to thousands and aims to reach more than 250,000 people including 105,000 children with immediate help including food. Plan will also be working with authorities on livelihoods, housing and rehabilitation of schools.

To cope with the significantly increased operation efforts in the country, Plan pulled in experts from other Plan offices worldwide, deployed international consultants and started to hire additional local staff to support country team in all core areas.

International cargo came predominantly in by air and was mainly directed via the Cebu airport and a few via the Manila airport, then shipped by trucks and boats to the affected areas. Some of the cargo was also flown into Tacloban and Guiuan airports once they became operational again. Transportation up to the affected areas was directed by Plan’s Country Office in Manila. Last mile transport and distribution was organised and conducted by the respective offices in the field. Air shipments arriving in Cebu were either directly loaded on trucks or temporary stored at the airport or at a warehouse in Cebu. The trucks loaded with cargo were then shipped by barges from Cebu port to Baybay. Once the barges had left Cebu, shipping notifications were simply sent through text message to Plan staff of the Baybay office who then knew that the cargo would be arriving in 5-6 hours. The Plan staff then received the trucks at Baybay port and went with them to various distribution spots.

Most of the issues which were already discussed in this report for the responding humanitarian agencies such as inaccessibility of affected areas, lack of transport and storage capacity at certain places and routes also caused issues for Plan’s supply chain management. Further internal challenges identified were the fact that Plan originally comes from a background of long-term development and not on very logistics heavy operations. Despite various relief operations of smaller scale in the recent past (e.g. Typhoon Bopha), the response to Typhoon Yolanda stretched the organisation’s capacity (structure and skillset wise) to its limits.

Pre-defined Logistics Standard Operating Procedures (SOPs) and a catalogue of standard relief items including all necessary specifics were on the other side seen as positive and helped to cope with the manifold challenges. But the biggest advantage of Plan’s supply chain was certainly its long time activities in the country and its extended field presence through its various offices in the affected areas.
For this reason, Plan was asked by various other humanitarian agencies (both UN and NGOs) to take over the last mile transportation and final distribution on their behalf. WFP partnered with Plan to distribute 2,000 tons of rice during 4 weeks on the island of Samar. WFP delivered the food to pre-defined transshipment points and handed it over to Plan. The subsequent transport by road and boats as well as the actual distribution was then managed by Plan’s staff in the field offices. A fleet of 6 x 25mtn trucks was contracted to facilitate this project. A total of 32 tons of ready-to-eat-meal food package was flown through a chartered cargo flight into Guiuan on 30 November and 2 December. A team of Logistics and Programme staff received the shipment at the airport. It was then loaded on two trucks and directly distributed from the trucks to people in the worst affected villages. The recipients of the food donations were identified and documented (number of households and ratios per household) by Plan staff prior to the arrival of the shipment.

Initial Engagement

Plan has a Disaster Risk Management Policy that the organisation adheres to. This policy provides instructions to Plan offices in the region that children are at risk and vulnerable in emergencies. This then converts to the Country Offices that needs to be executed by the Plan offices, in this case PIP. As disaster response has circumstantial constraints relative to Plans’ normal operations, the Programme Unit becomes the frontline of most of the emergency work in the field.

A terminology that is used is, ‘protracting’, which essentially means ‘a prolonged emergency’ or an ‘emergency within an emergency’. In the case of Yolanda, PIP was already engaged with mitigating risks and responding to the Bohol Earthquake (late October) in the region when Yolanda hit, which exacerbated the situation creating ‘an emergency within an emergency’. Thus, calling upon PIP to mitigate further risks and vulnerabilities to children. Protracted Emergency is part of the six types of alert levels Plan works under, where if activated resources are mobilized accordingly:

- **Green Alert Level** – Normal Situation: Strengthen preparedness process; build resilience
- **Yellow Alert Level** – High Risk of situation deteriorating: Monitor, liaise, coordinate; understand the unfolding situation, ensure the situation is known as widely as possible
- **Orange 1 Alert Level** – Localized situation around a PU area: Plan will respond, even if only to assess
- **Orange 2 Alert Level** – A situation of national significance: ensure well-being of staff. Engage in a large scale response.
- **Red Alert Level** – Attracts significant media attention; becomes an organizational priority: Large scale international response is activated.
- **Blue Alert Level** – Post Emergency or protracted disaster situation: Ensure than an effective and sustainable recovery program is underway
Plan International declared the typhoon Yolanda emergency as a ‘red level’ emergency: the highest level of emergency. This automatically means that responding to this emergency becomes the highest priority for all offices of Plan International worldwide.

**Preposition Strategy**

The Programme Unit offices mentioned in section 2 play an important role to understanding what prepositioned stocks were available at the time of the disaster. PIP utilised their offices as a ‘warehouse’ wherever possible. This optimised the utility of office space, but moreover, keeping inventory is costly, and disaster typologies and magnitudes are unpredictable. The quantity of supplies placed at PIP offices were relevant to the programmes units mentioned in section 2. Therefore, PIP did not have an elaborate strategy for prepositioning stocks, however PIP utilised their stocks at Plan offices in neighbouring countries to react to the immediate response of Typhoon *Yolanda*.

**Assessment Process**

This phase is a crucial part in understanding the entirety of the situation for PIP and any other organisations. Although there are numerous situation reports on public accessible platforms, Plan is required to conduct their due diligence in the needs assessment process. From a supply chain perspective, it is the ‘fact finding’ process. Plan is equipped with an ‘Assessment Tool Kit’, which is a framework for field staff to conduct their due diligence in attaining the correct and credible information. The ‘Assessment Tool Kit’ also acts as a fail-safe measure in attaining information because of the circumstances of *Yolanda*. The typhoon crippled everything from communications to infrastructure, thus rendering various offices helpless to contact each other. Furthermore, limited personnel are unable to travel to affected areas due to destroyed roads and airports, thus not all the essential personnel to conduct the assessment is able to travel to these areas. Therefore, the tool kit ensures that information is captured accurately. In a usual case, depending on the programme unit, generalists and specialists would make up an assessment team. The tool kit would capture information such as, accommodation, communications, transport nodes, logistics capabilities and constraints, and access points.

Unlike conventional supply chain assessments where access points, transport nodes and lead times can be well defined, PIP logisticians had to map out an initial supply chain map based on the assessment that was conducted. This bottom-up approach, however, was sensitive to constant changes in the affected areas due to the circumstance of the disaster. Access points changed frequently and Third-party logistics companies (3PLs) were faced with many adjacent problems. The assessment process included ‘village chiefs’ and various local officials, who were well familiar with the affected areas to help provide relevant information.

Cluster coordination as well as constant bilateral communication with other actors helped Plan to take final decisions on in which parts of the affected areas the organisation should focus their emergency response efforts on.
Sourcing and Procurement

As most of the other international NGOs with presence in the Philippines, Plan took first of all its pre-positioned stocks in the country and started procuring the urgently required relief items on local markets. The enormous quantities which were required to assist the millions of affected people forced the organisation to extend their sourcing beyond Philippines’ borders. International Donor institutions such as IrishAid as well as Plan Offices from other countries (e.g. Indonesia) provided in-kind donations which were flown to Cebu International airports. ShelterBox, as one of Plan’s global partners for emergencies, also provided shelter items as one of the early inventories of NFIs for this response. At a very early stage Plan also started procuring internationally for plastic sheeting and tarpaulins since the local markets were not able to provide the donor-specified specifications.

For international cargo PIP benefitted from the ‘one-stop shop’ created by the Department of Foreign Affairs (DFA) which facilitated the customs procedures tremendously and normally cargo was cleared within one day.

PIP had limited staff to procure supplies locally; as such a process required experienced personnel who also spoke the local language. It was noted that speaking the local language was not only a means of communication, but also a vehicle for negotiation and influencing. It assisted in avoiding and reducing gaps to an ever changing situation. Another issue reported was the ‘3 quote’ procurement policy which many humanitarian relief organisations had in place. Some of the local suppliers were so busy with drafting quotes that it took sometime 1-2 weeks before the organisation had all three quotes to start the actual procurement process.

Plan International allows, in emergencies, to use less than 3 quotes, if the situation warrants it and if the highest level of management (Deputy Country Director for Operations or Country Director) signs off on it.

Plan Philippines has a procurement catalogue that ensured specifications are met and is also compliant with the SPHERE (Humanitarian Charter and Minimum standards for Humanitarian Response) standards. This universal catalogue allowed for faster requisition and procurement. The catalogue also acted as a negotiation tool when supplies were unable to meet the specification, as specifications are stated clearly and can be used to rectify discrepancies with suppliers. Nonetheless, various issues continued to surface. For example, procurement staff had to ensure that food and nutritional supplies were Food and Drug Administration (FDA) approved. This encompassed the staff to gain documented proof that the supplier was FDA registered and the products had been FDA approved. Plan globally and in the Philippines doesn’t have agreed standards, catalogues and procedures for handling food and nutritional supplies. This was one area where prior experiences were limited and no significant partnerships with local suppliers existed. International technical programme specialists collaborated with procurement and logistics staff to ensure standards and qualities are met, and that the logistical requirements of transporting were met as well.
As there is a catalogue for reference, PIP staff was also able to source for suppliers whilst the needs assessments were being conducted. This simultaneous process was possible because the specifications were clear and the staff was able to source for suppliers during the assessment phase. However, an issue that surfaced was ‘cross-cutting’. This issue occurs when the catalogue specification met the requirements for specific sector of intervention that Plan was addressing, but it may be conflicting (not matching) with the requisitions. For example, a chartered air cargo service was required to transport goods in the field, however since such an item/service is not in the catalogue, procurement would be delayed, and thus delaying the time for relief items to be distributed to targeted beneficiaries. Such occurrences are normal in disaster emergency response and PIP always needed to be flexible whilst managing expectations. Logistics and procurement officers at PIP mainly consisted of two types, those that were in the field that facilitated verification of receivership and adhered to distribution lists, and those that procured and sourced according to requisition specifications. Both groups attended logistics cluster meetings organised in Manila as well as in Cebu, Tacloban and Ormoc.

**Transportation and Warehousing**

Whilst all international sourced cargo during the first weeks has been flown into the country by air (International Airports in Manila and Cebu had been identified as main entry points), all means were used for in-land transportation to deliver the cargo into the affected areas. Inter-modal transportation processes were very common due to the long distances, the numerous affected island and destroyed infrastructure (broken bridges, blocked roads etc). From Manila onwards road and air transportation (to Cebu or Tacloban) means were preferred options whereas trucks, barges and smaller boats were used to reach from there the final distribution spots. Once the cargo had arrived at Cebu airport it was loaded on trucks which then went to Cebu seaport to take the ferry to Ormoc or Baybay on Leyte island. Plan staff based on Leyte island was informed by mobile phone once the trucks were on the ferry so they could receive the trucks upon arrival and arrange for immediate distribution.

During the first days Plan reported serious bottlenecks on the availability of trucks in and around Cebu as well as water transportation to affected islands. Around 2,000 mtn of the above mentioned 10,000 mtn of rice from the National Food Authority warehouses in Mindanao was jointly distributed by Plan and WFP on Samar island. WFP moved the rice with a big fleet of trucks to various transshipment points where it was handed over to Plan teams who took care of the final transportation and distribution. A dedicated fleet of six trucks and a detailed transport and distribution plan helped Plan to coordinate this complex project.
PIP worked closely with a local Logistics Provider (LSP) in Manila who contracted various sub-agents for customs, warehousing and transportation processes. In some situations PIP field offices also contracted directly trucks on a temporary basis (e.g. the 16 mtn ready-to-eat food distribution on November 30th).

Warehouses were principally perceived as transit sites or distribution centres, fulfilling its role as ‘handover’ (e.g. from WFP to Plan) or ‘transshipment’ (e.g. change of transport mode at airport or port) of cargo. PIP staff generally tried to avoid putting the relief goods in warehouses since they saw the risk of delaying the relief operation once the goods sit in the warehouses. In the initial phase of the operation, warehousing at some places turned out to be a serious bottleneck due to limited available capacity and high competition (Cebu airport area) or level of destruction in affected areas. Subsequently, Plan staff had to be creative and flexible. In one case an abandoned villa (Figure 11) was rented in Catbologan, which even had its own boat jetty, from where the various distribution spots on Daram island could be reached by boats.

Distribution
Based on the results of the initial assessments, the various field offices prepared distribution lists containing information on required relief goods, number and names of affected families, names of villages etc. In the case of PIP, distribution lists were usually well defined and synced with programme unit requirements of the various field offices. Furthermore, logisticians enforced defined distribution lists, so that the relief supplies minimised lead times. Plan’s rooted field presence through their various offices and programmes, which existed already prior to the disaster, facilitated their work during last mile transportation and final distribution. The fact that other NGOs (e.g. ShelterBox) and UN agencies (e.g. WFP) opted to work with Plan as their partner to take over the last mile transport and distribution on their behalf clearly validates this strength, ability and agility to deliver.
Information and Communications Technology
In the field, PIP mainly used mobile phones and handheld radios to communicate with each other. However, as communication was not functioning in the early days of Typhoon Yolanda, satellite phones were of great value, while on the data connectivity, PIP engaged with Telecoms Sans Frontieres (TSF), an information and communication technology company that provides communications services during disaster responses to provide internet for PIP. They had used a Very Small Aperture Terminal (VSAT) to transmit data for internet connectivity. The device was transportable and suitable to meet the demands in the initial response.
Local Response Case Studies

From their waste experience with the regular appearance of natural disasters and their involvement in various on-going development projects in the country many local NGOs had the capabilities and skills to deliver relief supplies to needy people in the Visayas. Nevertheless, access restrictions to the affected areas also impacted their operations and caused significant delays of deliveries.

Saint Paul’s Parish

Saint Paul’s Parish (SPP) is a local religious community that responded by sending 754 family kits to survivors in Leyte. Their adjacent parish was destroyed in Leyte, and they had to liaise with a similar religious community in the affected area, Light of Jesus. SPP received donations from 09 November onwards, on an on-going basis. SPP voiced out their concerns with using government and its related agencies to deliver the supplies, indicating that it would be unreliable and highly politicised. The next option was to utilise the media agencies as they would send journalists to document the situation, however, this was an option also unfavorable because of unreliability and lack of transparency. Furthermore, feedback was given that the local Red Cross society was not organised at the beginning and thus SPP did not coordinate with them. Essentially SPP decided to transfer supplies to an adjacent religious community for trust and reliability reasons. Channeling goods through the dioceses was the main method for verification of receivership.

The kits that SPP had put together consisted of clothes, toiletries, bottled water and diapers. The organisation had copied the packing style of the media agencies, for ease of processing. The time taken to make the goods ‘ready for distribution’ allowed the relief items to be transferred between service providers and meant dimensional requirements. Transportation was facilitated by a member of the community who operates a land freight company and had access to their own fleet. The average lead time was approximately two to five days, depending on the condition of the roads and accessibility.

Communications was disrupted in the affected areas, however, when access became available again, SPP communicated through mobile phones to contact other religious networks. It was also noted that social media platforms such as Facebook was used to coordinate supplies and get in contact with various agencies or survivors. The social structure used to supply relief items was unique in SPP case, as they worked independently from any formal institutions. SPP acts as a coordinating organisation to get relief supplies and donations from Parishioners in Manila, to beneficiaries in affected areas.
**Gawad Kalinga: Operation Walang Iwanan**

Another local NGO that took action was *Gawad Kalinga* (GK). They activated operation *Waalang Iwanan* aimed at the response to Typhoon *Yolanda*. GK’s main targets were 200,000 food packs by first week of December, repair of 5,000 damaged roofs by Christmas, rebuild 20,000 homes in new or existing GK communities and open livelihood opportunities in partnership with Local Government Units (LGUs). Each food pack costs Php 200 and consisted of six meals for a family of five, whilst repairing of damaged roofs costing Php 20,000 each. Rebuilding damaged homes would cost Php 125,000 and fishing boats costing Php 130,000. The relief pack consisted of 2kgs of rice, 3 Noodles, 4 canned goods, 5 coffee or energy drinks and 3L of water. By 09 November 2013, GK regional teams mobilised to do an assessment of what was needed. They prepared and completed the ground work whilst overseas GK units such as GK USA and Australia were mobilising their resources to be shipped or flown into Philippines.

GK maintained three base operations in Borongan (Eastern Samar), Baybay (Leyte) and Tacloban City (Leyte) which served as main hubs to receive and deploy the most affected areas of Typhoon *Yolanda*. As of 19 November 2013, GK had already distributed 20,539 food packs to Antique, North Cebu, North Negros and Iloilo. GK transported relief goods utilising any resources they managed to get including air, sea and land freight. The Philippine air force provided two helicopters to transport GK relief items to Pandan, Antique by 16th November 2013. GK utilized the military capabilities to distribute relief supplies to difficult areas. A key process was re-packing of the supplies to meet logistical requirements to smooth the transfer of goods. For example, large sachets of rice had to be repacked into per-kilo plastic bags to fit a ‘kit’ requirement. This would ensure that resources are distributed according to family requirements. GK also conducted stress debriefing sessions, counseling and community activities for children.
Oplan *Hatid*: Operation Drop-off

Oplan *Hatid* (OH) is a local NGO that provided free transfer service from the Villamor Air Base to their relatives homes in Manila. After Typhoon Yolanda, approximately 150 people arrived at the air base by a C-130 every 2 hours. The scale of the operation was not completely met, however OH mobilised volunteers to assist the survivors that are arriving. OH facilitated survivors and volunteers to meet at gate no. 5, providing the service by volunteers and also food.

Although a small operation, the efforts of OH eased the burden of the military and thus were able to reallocate military resources to more pressing issues. So far, 1,723 rides have been officially provided to the survivors. OH utilised the internet and social media platforms to mobile volunteers. Furthermore, they managed to create a live counter for the number of volunteered vehicles available for the upcoming dates. As of 01 December 2013, services provided by OP have been transferred to the Department of Social Welfare and Development (DSWD).

**Task Force Mapalad**

Task Force Mapalad (TFM) is a local NGO that operated in Negros Occidental province. Their immediate response entailed food and survival relief items, and the long-term goals are shelter and livelihood. Prior to Typhoon *Yolanda*, TFM were already engaged with development initiatives in some regions, and thus had existing networks and connections to distribute relief items. They have currently reached out to 3,500 families and plan to expand their operations. The initial distribution of relief supplies of ‘family kits’ consisted of 2 kgs of rice, 2 kgs of mung beans, noodles, dried fish, salt and bottled water. The standards of which TFM adheres to are that of the SPHERE project. This assisted in meeting donor standards to deliver relief items.

Assessment was done in conjunction with LGUs and the local communities. TFM described their set of data and information to be primary and secondary. The former came from government departments such as DSWD and local village officials. However, information from government departments were sometimes unreliable. Therefore secondary information was attained from local religious communities as they had a strong understanding of the community needs. The process spanned for two days with representatives for every agency. Although local village officials did not take the lead in the programmes, they were invited to every phase and regular meetings as a sign of courtesy. This process also facilitated the ease of organising relief supplies in the province. The assessment determined the types of support that had already arrived, finalised the list and organised them into clusters (i.e. Tools for shelter, damaged houses and livelihood).
The distribution of relief items was not just a means of survival for TFM, they viewed it as a form of dignity. The items distributed had to be consistent, well packed and equally distributed. Failure to do so created tensions and unnecessary conflicts between the beneficiaries. This also included prioritising the elderly, women, children and pregnant women. Access cards were given to beneficiaries (per family) to receive relief items. The cards assisted TFM to track and monitor the amount of supplies distributed and reduce the risk of opportunity seeking. TFM noted that having an effective structured organisation and system, provided ease to distribute goods and also allow external parties to donate. The time taken from procurement to distribution averaged between two to three days. TFM used local schools for temporary warehousing to conduct re-packing activities. This included school halls, gym halls and community centre halls. Furthermore, school children provided volunteer assistance to re-pack and distribute the items. TFM offices were used as ‘buffer areas’, in case there was a temporary overstock of goods, and as these areas were in the city, security was not a major risk.

Procurement was the major logistical bottleneck because local suppliers were unable to meet the volume of demand. This stifled distribution processes and delayed lead times. Local procurement was maintained because TFM had connections in the area and was able to utilise them by getting discounts and even free delivery. It helped that village officials were helping TFM along the process. TFM also noted that local NGOs are not bonded by government ‘red tape’ and that they have more freedom and flexibility to negotiate their activities than government institutions.

The social structure that TFM engaged with to distribute goods were predominantly local types (i.e. Barangay Chairmen, officials, workers and the Mayor). TFM had made social relations with all the various levels to ensure that distribution was done appropriately. This network also assisted TFM to expand their network in procurement, sourcing and distribution. For example, TFM worked with Barangay Volunteers mostly to assess housing needs as they knew the area very well. Overall the relief operations by TFM went well and their organisation is looking to expand their capabilities outside the province.
Moving Forward

When natural disasters of a super typhoon scale occur, the level of destruction in the affected areas is enormous and the complexity of provided assistance is high. The humanitarian community has been struggling to respond to such disasters and will continue to do so. However, based on the experience of the team at the Kuehne Foundation – NUS HumLog Centre and the University of the Philippines during the Yolanda relief operation, it seems that two major things have started to significantly improve since the Tsunami relief operations in Southeast Asia ten years ago. Firstly, the level and quality of coordination between humanitarian actors, and secondly the perceived relevance of logistics and supply chain management in the context of relief operations. The well-functioning coordination could be observed from the information which was made available and shared during inter-agency meetings as well as through reports and websites. The way how the affected areas were divided into zones and assigned to organisations by sector (e.g. health, water and sanitation, shelter, etc), as well as joint projects such as the distribution of 10,000 mtn of rice by WFP and partner NGOs certainly proved the enhanced level of professional assistance in complex environments.

All humanitarian actors, the team has been interacting with during its deployment, highlighted the value of logistics processes in their individual programs as well as in the overall response. However, the availability of local personnel with logistics expertise was highlighted as one of the major bottlenecks during the relief operation. The local capacity building efforts which will strengthen national and local government bodies as well as local NGOs had been initiated already prior to the Yolanda typhoon and shall and will certainly be intensified in the months and years to come.

Another challenge identified by the actors was the lack of proper organisational and communication structures which include an integrated and collaborative supply chain approach all along from planning stage to the actual implementation of programs. A better coordination and collaboration between departments (e.g. logistics, procurement, finance, program/sector experts) and an enhanced integration of suppliers, logistics service providers and other supply chain partners is considered as key to tackle challenges of future large scale disasters.
References


KUEHNE FOUNDATION - NUS HUMANITARIAN LOGISTICS – ASIA PACIFIC EDUCATION CENTRE

The Humanitarian Logistics – Asia Pacific Education Centre was established in November 2012 as a collaborative effort between the Kuehne Foundation, National University of Singapore and The Logistics Institute – Asia Pacific.

Hosted at TLI – Asia Pacific, the Centre is a first in the region and is guided by its founding concept – “from/by Asia for Asia” by providing a unique platform for bring awareness and fostering collaboration between regional academics, government agencies, non-profits, universities, students and the commercial sector through education, research and outreach efforts.