Best Practice Case Studies on Private Sector Engagement in DRR
Undertaken as part of the FOREWARN Initiative
This compendium of case studies reflects a number of years’ work undertaken by the Humanitarian Futures Programme (HFP) and details examples of innovative private sector engagement in DRR as part of their core business. It was further developed by HFP, King’s College London (KCL) with the Economic Community of West African States (ECOWAS) as part of the FOREWARN Initiative, funded by the Australian Department of Foreign Affairs and Trade. This report has been designed to complement the ‘Scoping report of private sector engagement in DRR in West Africa’, providing international examples from which lessons can be drawn for the West African context.

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Front Cover Image: A Gawad Kalinga Village in the Philippines, located in Mandaluyong on the Pasig River. Gawad Kalinga is Tagalog for ‘give care’ or ‘to give refuge’. For more information on how the organisation engages with the Private Sector, see Case Study 8.
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Introduction

The following 8 case studies are international examples of innovative private sector engagement in DRR, as part of core business. These examples have been developed by HFP as part of a number of projects on the private sector over the past 7 years. Each case study provides an overview of the disaster context, the implementation mechanism, the business case for engaging in DRR and some of the challenges and opportunities encountered.

The purpose of these international case studies is to provide concrete examples from which lessons learned can be drawn to support private sector organisations, national and regional actors in understanding the entry points and mechanisms through which the private sector can engage in DRR.
Case Studies of Best Practice for Private Sector Engagement in Disaster Risk Reduction

Case Study 1:
Preparing for disasters through the building of platforms for the maintenance of critical services

Case Study 2:
Enhancing resilience through cash transfers

Case Study 3:
Coordinating Engagement of Engineering and Construction Companies in Disaster Response

Case Study 4:
Building resilience through agricultural diversification

Case Study 5:
Multi-actor collaboration to provide resilient livelihoods

Case Study 6:
Realigning disaster management frameworks to facilitate private sector and government collaboration

Case Study 7:
Enhancing resilience through the sharing of flood risk models

Case Study 8:
Assessment of relocation sites and the provision of livelihood incentives to build future resilience
Case Study 1: Preparing for disasters through the building of platforms for the maintenance of critical services

Damco in Africa

Introduction

This case study outlines Damco’s support to disaster preparedness platforms, using its core competencies in supply chain management, in cooperation with WFP and others, to help ensure the maintenance of critical operations and services in the event of a disaster.

Problem Statement

Pandemics and other large-scale disasters not only threaten the immediate health of affected populations but can lead to the disruption of critical services such as food supply, transport and energy. Ensuring preparedness for response to such second and third order effects requires not only the participation of traditional humanitarian actors – including UN agencies, the Red Cross/Red Crescent and NGOs – but a ‘whole-of-society’ approach. This means effectively coordinating the capacities of government agencies (including the military), the private sector and civil society. This approach lends itself towards elements of the Inter-Agency Standing Committee’s ‘Transformative Agenda’, currently being pursued in the humanitarian sector. Within the approach, engagement of the private sector is vital, as, in the short-term, ensuring its own business continuity in the event of a disaster can contribute to a country’s ability to maintain critical services. While in the long-term, a country’s ability to ‘bounce back better’ is central to community resilience, and also allows it to (re-)enter the regional and global economy more quickly, thus ensuring the sustainability of the private sector.

Overview of Private Sector Innovation and Intervention

In recognition of increasing global vulnerability to pandemics, WFP has been running a series of Pandemic Preparedness and Response Exercises (P2RX). These exercises, conducted in East, West and southern Africa, simulate the effects of a severe pandemic and develop a ‘whole-of-society’ approach to preparing for it. The benefits of this level of preparedness extend not only to pandemics but are of great utility in the face of other types of disasters. The most recent P2RX was conducted in southern Africa from 21–24 May 2012, focusing on the role of the private sector in the maintenance of critical services. Damco (part of the A.P. Moller-Maersk Group and a specialist in integrated supply chain management) was one of four private sector organisations to participate. Other participants included the Southern African Development Community (SADC); the National Disaster Management Organisations (NDMO) and government ministries of Lesotho, Madagascar, Malawi, Mozambique, Namibia, South Africa, Zambia and Zimbabwe; Red Cross/Red Crescent National Societies and WFP.

At the P2RX, two Damco representatives briefed participants on their company’s approach to both protecting and improving supply chain management in times of a disaster. This included its governing principles on supply chain resilience – supply chain design (tools), horizontal collaboration (coordination) and strategic leadership (commitment). Damco has significant experience in this area as it works in many challenging environments, for example, supporting WFP operations in Chad, Djibouti and Niger, respectively listed 183, 170 and 173 out of 183 countries assessed in the World Bank’s 2012 Doing Business index. Drawing on this experience, Damco outlined how its core competencies could complement the regional preparedness processes. For Damco, this process...
involves: Identifying gaps (in critical services likely to result from a large-scale disaster)–through joint assessments and analysis of risks (with WFP, other UN partners and national authorities); Closing the gaps – through the group’s commercial competencies in service provision and supply chain management, as part of their core business; and Building resilience – through better aligning their own business continuity plans with those of the participating NDMOs, which had previously worked in isolation to one another.

Through their engagement with private sector organisations such as Damco, participants in the P2RX explored cross-sector sharing of disaster management and business continuity planning methodologies and alignment of preparedness planning processes which had previously occurred in parallel. Participants noted that significant gaps existed in current plans, highlighting the need for closer cooperation between the private sector, international organisations, governments and NDMOs across southern Africa. It was also agreed that engagement needs to occur early, with expectations of the private sector’s roles clearly defined. The importance of developing such a shared understanding is highlighted by the present crisis in the Sahel region, West Africa, where commercial presence combined with joint Logistics Preparedness Assessments have helped to ensure a rapid response by WFP, with support from Damco and other commercial logistics providers.

**Implementation Mechanism**

Currently, Damco has two primary entry points for its engagement in disaster preparedness and response. The first is as an existing individual commercial service provider with WFP through its ‘Aid & Relief’ vertical, undertaking WFP contracts on a competitive basis. The second is through Damco’s wider sustainability framework, which enables the organisation to engage in disaster preparedness and risk management issues more broadly across the A.P. Moller-Maersk Group.

**Business Case**

Sustainability issues are core to Damco’s business model. Its engagement with the P2RX links to its core business in that it draws on its competencies in supply chain management – ensuring the sustainability of its own operations in emerging markets. For Damco, emerging markets in East, West and southern Africa represent an area with great social need and market opportunity, but also significant business and reputational risk. The organisation, however, P2RX understands that public-private partnerships such as those formed through the P2RX support its ability to mitigate risk, scale-up market opportunities and achieve sustainable outcomes, whilst also enhancing organisational reputation.

**Humanitarian Impact**

The P2RX exercises have highlighted the vital role private sector organisations such as Damco can play in supporting preparedness for, and maintaining critical services and operations during, humanitarian crises. The current Sahel crisis in West Africa provides a powerful example of the importance of this role. In late 2011, anticipating a major crisis in the Sahel, WFP began scaling up its humanitarian operation to reach up to 10 million people before year end 2012. The A.P. Moller-Maersk Group has been able to support WFP in delivering this challenging response by drawing on 1) its commercial presence, highlighted by its commercial experience in the region, and 2) its preparedness activities, as demonstrated by its participation in a Logistics Preparedness Assessment in West Africa with the Logistics Emergency Team (LET), which assessed potential supply routes into the Sahel from Nigeria, given its surplus food stocks prior to the crisis. The role of private sector organisations such as Damco in this challenging response highlights the importance of multi-sector engagement to build innovative platforms for the maintenance of critical services–improving utilisation of resources and value for money, which, in turn, is vital to saving lives and livelihoods.
Case Study 2: Enhancing resilience through cash transfers

Equity Bank and the Hunger Safety Net Programme in Northern Kenya

Introduction

The Hunger Safety Net Programme (HSNP) provides cash to food insecure households in northern Kenya in an effort to enhance their resilience to shocks and stresses. Equity Bank uses its innovative ‘agency banking model’ to ensure HSNP payments are delivered to recipients in a cost-effective, efficient, accessible and secure manner.

Problem Statement

One of the key changes in humanitarian response in recent years has been the increasing use of cash. Cash transfers can support crisis-affected communities in a way that helps to maintain dignity, provide access to food and shelter and rebuild or protect livelihoods. Yet there is a great need to link emergency cash transfer programming with longer-term, more predictable safety nets that engage governments in helping to build resilience in crisis-prone contexts. In this vein, the HSNP provides small, regular social assistance transfers to the very poor of northern Kenya. Yet social protection schemes such as the HSNP face major challenges in delivering payments safely and cost-effectively to beneficiaries in remote rural areas. In northern Kenya, specific challenges include extremely poor infrastructure, low levels of education, a poorly-developed cash economy and prevailing insecurity in some areas.

Overview of Private Sector Innovation and Intervention

In its current pilot phase (2007–2012), the HSNP, a partnership between the UK’s Department for International Development (DFID)—the programme’s funder—and the Government of Kenya, delivers bi-monthly cash transfers of KSh 2,150–3,500 to 66,000 households (300,000 people)—the 10 per cent poorest in four districts of Turkana, Marsabit, Wajir and Mandera. Phase two (2012–2017) will target over 300,000 households. Within the pilot phase, implementing partners are seeking to find answers to the key questions for the roll out of phase two. For Equity Bank, this involves developing the most effective payment systems for the specific needs of beneficiaries. Equity is well placed to do this as it is a provider of financial services that focuses on the unbanked and under-banked. Currently, it has over seven million clients, constituting over 57 per cent of all bank accounts in Kenya. It is also the largest bank in the region in terms of customer base, operating in Rwanda, South Sudan, Tanzania and Uganda.

Payments by Equity Bank are delivered through its agency banking model using locally-recruited ‘delivery agents’. An agent is typically a shop keeper that has cash available from their business activity. The agents are provided with a wireless Point of Sale (POS) device and a solar panel to charge the device, which becomes an HSNP pay point. HSNP recipients are issued with a biometric card to access their payment, on which they can also ‘save’ all or part of the transfer amount. When the recipient takes their card to an agent, they are asked to swipe the card and place their finger on a digital finger print reader. The reader authenticates the card holder and the agent then pays the recipient the required amount. This system ensures the security of the payment, preventing fraud and enhancing privacy.

When an agent makes a payment to a recipient he pays out cash from his till, which is then credited to his Equity Bank account along with a fee for
the service. The POS device ensures that electronic records of the transaction are kept; the device also produces a paper receipt for both the recipient and the agent. As one delivery agent, Mr. Cosmas Kalobeiyei from Turkana north noted, the excess power generated by the solar panel has allowed him to light his shop and his children’s room so they are now able to study after dark. His customers have also enjoyed his mobile charging service; previously there was no power in the village although there was signal from the Safaricom network.

The HSNP project has successfully transferred over KSh 2.5 billion to beneficiaries across northern Kenya. Reports confirm that the payment system has generally performed very well, although liquidity has been a challenge for some agents. The approach adopted has also offered financial services to the wider community in these underserved areas through new bank branches and access points (through agents/retailers POS devices). Alongside the HSNP, the Equity Group Foundation provides financial education to beneficiaries in order to equip them with the financial knowledge and skills necessary to make better-informed financial decisions in their use of the cash received. Evidence to date suggests that the HSNP is allowing beneficiaries to manage credit well, borrowing to smooth consumption but avoiding damaging levels of indebtedness.

Implementation Mechanism

The HSNP runs under the aegis of the Ministry for the Development of Northern Kenya and Other Arid Lands and is funded by DFID. Equity Bank was selected to provide payment services to the HSNP through a competitive process undertaken by the Financial Sector Deepening Trust (FSD Kenya). The other four components of the HSNP are led by 1) Oxfam, with CARE Kenya and Save the Children UK – administration and targeting, 2) HelpAge International, and its national partners – social rights for recipients; 3) Oxford Policy Management (OPM) and Research Solutions – monitoring and evaluation and 4) a private consultancy – management information systems.

Business Case

In recent years, Equity has been engaged in cash transfer programmes across the East Africa region, partnering with a range of leading international development agencies to deliver payments to beneficiaries through its network of agents. The Bank’s agency banking model with its biometric smartcards has made it a strong partner for these agencies and the Government of Kenya. Equity’s engagement in these programmes sits within its core business of providing payment solutions to Kenya’s unbanked and under-banked. And it is the challenge of inadequate infrastructure in northern Kenya, particularly mobile communications systems and power, which has been the key motivation for the Bank to innovate in developing a product that can help it both meet humanitarian need and expand to new markets within the country. In this way, the company’s investment in the model was not undertaken as part of its corporate social responsibility, but as a core element in Equity’s strategy of customer expansion.

Humanitarian Impact

As a hunger safety net, the HSNP proved fairly effective at protecting beneficiary households in northern Kenya against the worst effects of the 2011 Horn of Africa drought. As the 2012 impact analysis notes, given the drought and inflationary context of 2011, the fact that poverty did not increase among beneficiaries but did amongst control households – where a significant increase in poverty rates was detected – suggests it is performing its function as a safety net effectively. Further, HSNP households are more likely to have retained their livestock, highlighting the importance of the cash transfer programme in the protection of livelihoods assets.
Case Study 3: Coordinating Engagement of Engineering and Construction Companies in Disaster Response

The Indonesia Disaster Resource Partnership

Introduction

This case example features an innovative, multi-level, cross-sector partnership between humanitarian organisations, the Government of Indonesia and the private sector. It illustrates the potential role that the private sector can play before, during and after a disaster and how intermediary mechanisms can foster cross-sector collaboration and leverage and align the expertise, strengths and resources of diverse actors to work together for a common objective.

Problem Statement

At the World Economic Forum (WEF) annual meeting 2011 at Davos-Klosters, President Susilo Bambang Yudhoyono, requested WEF’s Disaster Resource Partnership Initiative, an international alliance of the Engineering and Construction (E&C) community to be established in Indonesia.6 The Partnership was officially launched in June 2011 at the East Asia WEF summit in Jakarta with the objective of developing a cross-sector, professional and accountable humanitarian response to disasters including the ability to scale up to meet growing demands.

The platform is conceived to address a number of gaps that had been previously identified with respect to coordination needs between government, the private sector and key local humanitarian actors in times of disasters. The platform also seeks to systematically harness the untapped expertise and resources that the E&C sector can offer with respect to reducing the damage to physical infrastructure in times of disasters and ensuring that when a disaster event occurs the recovery of the affected infrastructure is undertaken in a way that reduces future disaster risks (rebuilding better through risk reduction designs). In turn, the platform provides both a clear and coordinated entry point for the engagement of the E&C sector in disasters and a voice for the E&C sector in humanitarian coordination in Indonesia. Additionally, the platform plays an important role in enhancing the private sector’s own understanding of disaster management, including the resources and tools of the international system.

Overview of private sector innovation and intervention

There are several aspects of the Partnership that make it unique. From the start the Partnership had strong champions with support at the highest level on the part of the Indonesian Government and the private sector, and also with the support of UN...
System in Indonesia, i.e., UNOCHA. This included strong links between the Partnership and the Ministry of People’s Welfare, as support to identify and help recruit the initial ten members of the platform, and support to host the secretariat.

A second innovative dimension to the Partnership is its governance structure which models the collaboration the platforms seeks to foster with support from four key stakeholder groups that comprise the Partnership: government, private sector, civil society and international organisations. Government bodies include the Ministry for People’s Welfare, the National Agency for Disaster Management (BNPB), and the Crisis Management Center of the Ministry of Health, along with private sector representatives and three humanitarian partners – International Federation of Red Cross (IFRC), UNOCHA and a national NGO – the Humanitarian Forum Indonesia. The secretariat functions in a neutral, energizing and catalytic role towards building a systematic entry point for the E&C’s engagement in crisis issues–organizing training, mapping of the private sector, fostering the network and collaboration, documenting and disseminating lessons learnt and sharing good practices, outreach and promotion.

A third innovative dimension to the network was the contribution of the Partnership in the aftermath of the 2013 Aceh earthquake. The members of the Partnership are deemed to contribute to emergency response in three ways: through the provision of direct action when they have operations in an affected area, through E&C staff secondments to work alongside humanitarian agencies in times of disasters and sharing their technical competencies and expertise. For example, following the 6.1 magnitude Aceh earthquake the DRP deployed network members to conduct a building/construction damage assessment of selected health facilities and a hospital in the affected area. An assessment of local capacity in construction has led to the training of 18 master local builders and vocational training personnel on earthquake resilient construction. This work was undertaken in close collaboration with NGO members of the Humanitarian Forum Indonesia, as the partner of the DRP, who facilitated access to the local community and assisted with the follow-up to the training.

**Business Case**

The companies benefit from their membership in the network in a number of ways. The platform provides them with a clear entry point for their engagement, access to the opportunity to showcase and apply their expertise in a way that enhances their brand and visibility. The platform also supports the companies to demonstrate to their employees and the broader external community that they are socially responsible firms and have a commitment to civic duty. Membership in the platform provides the companies a means for talent development of their staff who can participate in platform activities such as training that is a pre-requisite for deployment in the time of a disaster. DRP E&C members are expected to contribute to the costs associated with any DRP company specific activities, a policy that is deemed to be consistent with their own business thinking and models. Additionally, membership in the platform offers a good networking opportunity including the potential to collaborate with other companies that they may typically compete with, and with the opportunity to broaden their regional and global network contacts.

**Humanitarian Impact**

The MOU for the DRP and the E&C companies states explicitly that ‘the network’s primary goal is to save lives and alleviate suffering by harnessing the strengths and assets of the E&C sector for disaster preparedness and response.’ The Partnership also envisions that the E&C sector can make a significant contribution to disaster risk reduction in areas such as building codes and regulations, urban and land use planning, risk sensitive construction, etc. This suggests that the DRP’s long-term objective to expand the network to include other private sector industries such as telecommunications, logistics and transport and insurance could go a long way to advancing the need to harness the private sector’s talent and expertise to managed disaster risks in Indonesia in the context of its ‘core business’.
Case Study 4: Building resilience through agricultural diversification
Sari Husada in Yogyakarta, Indonesia

Introduction

This case study outlines the partnering of Sari Husada, an Indonesian corporation that produces nutritional products for babies and children, with a local NGO to relocate farmers affected by the eruption of Mount Merapi in Indonesia to safe areas, and to diversify farmers’ livelihoods, thereby creating a new sustainable and integrated agricultural business model. This has allowed the communities affected by the eruption to recover from the devasting event and has developed their resilience to future hazards. At the same time, by helping farmers to recover their livelihoods, the project has ensured the sustainability of milk production for Sari Husada products and increased their national reputation.

The Problem Statement

In October 2010 a simultaneous earthquake, tsunami and volcanic eruption struck Indonesia. A 7.7 magnitude undersea earthquake resulted in severe infrastructural damage in the Sumatra region and a three meter (10 foot) high tsunami that struck the Mentawai islands off the west coast of Sumatra. The tsunami caused widespread destruction that displaced more than 20,000 people, affected about 4,000 households, and reportedly killed 435 people. At the same time, Mount Merapi, in Central Java, Indonesia, began an increasingly violent series of eruptions that continued into November. Over 350,000 people were evacuated from the affected area. However, many remained behind or returned to their homes while the eruptions were continuing. 333 people were killed during the eruptions, whilst over 150,000 were displaced—of which many suffered respiratory infections and hypertension.

The eruption of the Merapi volcano severely affected agricultural activities. 2,174 dairy cows died and a further 600 cows were subsequently sold by farmers who could no longer afford to maintain their livestock. As a result, both the quantity and quality of milk production decreased. Prior to the eruption, milk production was the main activity for farmers, who relied heavily on selling their produce to cooperatives for their livelihoods. The eruption therefore resulted in the loss of the local farmers’ main source of income and highlighted the dependency on, and unsustainability of, farming practices. Following the eruption, farmers were relocated to shelters with no space provided for the cows that had survived. The shelters were designed to be temporary but the government made no plans to provide support for permanent relocation. Whilst in these temporary settlements, the nutrition of communities deteriorated, generating long term health concerns for Merapi farmers.

Overview of the Initiative

Temali foundation, previously Heifer International, Indonesia, a local NGO with experience in livestock and integrated farming solutions, on a pilot project from January 2012 to June 2013. The project was designed to relocate farmers to safe localities and to instigate a Sustainable Dairy Business Model and other integrated agricultural farming activities, whilst at the same time securing the quality and quantity of milk production for Sari Husada needs and generating publicity for the company and bolstering its organisational reputation.
The project’s activities included:

- Development of a new interdependent farming business model with the farmer community
- Establishment of 5 Agricultural Services Centers across 5 villages acting as central service points and learning platforms for farmers not integrated into the Sari Husada cooperatives.
- Establishment of a ‘self-help’ farmers association to act as a multi-stakeholder forum.
- Promotion of other income generating activities through integrated agriculture and livestock good management practices, thereby reducing dependency on Sari Husada.

In order to support the resumption of dairy farming following the loss of livestock, Sari Husada implemented a ‘Pass on Gift’ scheme. Farmers who still had cattle following the eruption could give 2 cows to a farmer who lost all their livestock. In exchange Sari Husada would provide the generous farmers with access to 4 imported cows with high output, as well as barn facilities. Whilst the project did not intend to recover the full scale of the dairy activities existing in the area prior to the eruption, it did aim to provide an alternative option for all farmers, including those who decided to abandon milk production.

The Business Case

Two Sari Husada factories located at 25 and 30 Km radius from Merapi volcano were damaged by the eruption and 3 of their 10 cooperatives were affected. Sari Husada designed the initiative not to deal with short term shortcomings in their dairy production but instead to ensure the longer term sustainability of their production. By focusing not only on re-starting milk production but also on generating other non-dairy activities, Sari Husada has improved the overall well-being of their workers, as well the resilience of their livelihoods to future shocks. This in turn has ensured the longer term sustainability of milk production.

The agricultural services centres act as knowledge sharing hubs for both the farmers working for Sari Husada and external farmers to learn from each other and enhance their practices. This has led to the improved production and management of Sari Husada outputs.

The project has built the reputation of Sari Husada as a credible local partner for mainstream consumers, and the company hopes the initiative will lead to the government endorsing the company for customs exemption.

Humanitarian Impact

The project permanently relocated communities that were previously in inappropriate temporary housing to areas no longer at risk of future eruptions. In addition, through the development of the integrated farming model, the project recovered an immediate source of revenue for the farmers. Moreover, it has created sustained and diverse livelihoods, without the same dependency on milk production.

Farmers who are not willing to accept the support for relocation to safe areas will not be able to be part of the cooperative, which can be seen as an incentive for farmers to consider their long term safety. However, agricultural services and training are also open to ‘satellite farmers’, improving the livelihoods and nutrition of those farmers not associated with the Sari Husada cooperatives. Over 300 farmers have been trained, 12 micro-business units have been initiated, and nearly 600 new jobs have been created.
Case Study 5: Multi-actor collaboration to provide resilient livelihoods

Xavier University’s Ecoville Project in the Philippines

Introduction

This case study outlines the Project Ecoville initiative, which provided shelter, facilitated improvements in water sanitation and hygiene, and created livelihood opportunities for approximately 568 families (2,700 individuals) affected by Typhoon Washi (known locally as Typhoon Sendong) in the Philippines, all within a carefully governed and ecologically friendly ‘village’. The project involved multiple actors from the private sector, the humanitarian sector, universities, the military and other government departments, and was coordinated by the private Xavier University-Ateneo de Cagayan (XU).

The Problem Statement

When hazards strike in areas with previously low incidence rates, a broad lack of preparedness often results in overwhelming needs within all sectors. As such, post-disaster interventions must simultaneously address shelter, education, and water and sanitation needs. Traditionally, different groups of actors with particular expertise will target each of these needs individually. However, this often leads to overlapping mandates and uncoordinated activities that fail to fully utilise the capacities of the various actors, and that, most importantly, fail to effectively address all facets as a whole. Despite early warning announcements of the impending typhoon by PAGASA, the populace of Mindanao Island was caught unprepared for Typhoon Washi. Mindanao, especially in its northern and eastern parts, had no record of severe weather events in the previous 100 years and so the population did not readily respond to the category 2 storm warning. The main areas affected centred around Cagayan de Oro and Iligan, where a lower proportion of people received the early warning message. The typhoon brought 10 hours of torrential rains that triggered disastrous flash flooding over Mindanao where rivers were already swollen. Thousands of people were killed overnight as flood waters and landslides destroyed homes along mountain sides, and residents were forced to seek refuge on their roofs amidst 90 km/h winds. In total, 1,257 people lost their lives, and more than 1.1 million people were displaced as a result of this severe tropical storm. The estimated cost of damages to infrastructure, agriculture and school buildings amounted to PHP1,455,825,723.40. Relocation of affected populations was seen as the first priority.

The Initiative

Founded in 1933 and granted University status in 1958, Xavier University-Ateneo de Cagayan (XU) was the first university in Mindanao and, as of 2013, is home to 10,000 students as well as 750 faculty and staff. It is a highly acclaimed institute with faculties ranging from agriculture, engineering, and computer studies to medicine and law. XU is a private institution and, as one of five Jesuit colleges and universities in the Philippines, it works in consortium with the Ateneo group of universities and other global institutions. XU has long been engaged in research and social outreach (RSO), particularly in Mindanao; for example, the Sustainable Sanitation Center (SuSan Center), a multidisciplinary convergence centre of the university, is committed to science-based and multi-sectoral engagement in sustainable sanitation. The SuSan centre has 216 partners, of which 30% are local NGOs, 18% are education or research institutes, 15% are international NGOs, and 15% are private sector organisations. The unique coupling of research and outreach strengthens the role of the university in the development
Following Typhoon Washi, XU led a collaborative project, the Ecoville Project, which aimed to relocate those whose homes were completely washed away or were declared as no-build zones whilst at the same time keeping the community together, offering diverse livelihood options, and creating a safe ‘village’ – Xavier Ecoville.

Xavier University rapidly mobilised students and staff and was able to raise funds through its wide networks of churches, universities, alumni and private sector organisations from within the local community, the rest of Philippines, and from overseas. Filipino Diaspora also contributed donations via an online web portal established within three hours of the typhoon. 90% of the project’s funding and pro bono services were derived from private sector contributions.

The university allocated five hectares of its own land for resettlement, deemed safe by its engineering faculty and verified by a local actor. Temporary bunkhouses to provide quick shelters were initially built by the Military Engineering Corps and funded by the Department of Social Welfare and Development, with contributions from the International Organisation for Migration. Partnering with a renowned Philippine private developer, Walter Brown Inc., a comprehensive master plan for the development of the allocated land was produced, which aimed to ensure sustainability of the project. This included plans for water and solid waste recycling, vermiculture, solar energy creation, and pocket gardens for community vegetable farming to prevent micronutrient deficiency. In March 2011, XU and Habitat for Humanity Philippines signed a Memorandum of Agreement for the construction of permanent houses at Xavier Ecoville, with funding contributions from Union Bank and other donors. Permanent housing was constructed later by private contractors, along with a central community hall that would later be rented out to generate income for the community. XU also provided livelihood opportunities for the community through a livelihood centre, managed by the Xavier Ecoville Multipurpose Cooperative (Xempco) and funded by the Peace and Equity Foundation amongst other donors. One notable livelihood initiative was in the forestry industry: teak saplings were donated to the community, and training on how to nurture the saplings was provided, with the resultant wood later re-sold to teak industries. In addition, XU organised capacity-building and skills enhancement seminars in entrepreneurship, enterprise development and cooperative management in order to facilitate business development and job placements.

The project also included a focus on good governance and community leadership through training programmes, as well as through the formation of a grievance committee and a foot patrol. Regular meetings with the Barangay (local) council and the local police were held to ensure an orderly and peaceful community.

Throughout the project XU worked closely not only with its own network of Ateneo Universities but also through direct partnerships with the local community, multinational organisations, national to local businesses, the military, and other government departments to rapidly facilitate the wide range of programmes within the Ecoville Project. Trust and credibility were crucial factors for the success of the initiative. Partnerships were sustained through transparency and constant communication between XU and its partners and stakeholders, primarily through a comprehensive and constantly updated website, social media platforms including Facebook and Twitter, as well as guided tours and informal meetings.

**Business Case**

XU’s staff and students were among those affected by the Typhoon and so the university was keen to find a way to help its members as well as the wider community. Without the resettlement of these communities, staff and students may have been unable to attend classes for an extended period of time. Moreover, community service was already part of the curriculum and training of all students and faculty through the university’s various social outreach programmes that included the Curriculum-based Community Involvement and Service Program and the Faculty Community...
Involvement Program. The typhoon has resulted in XU providing a new training course in disaster management, in partnership with other academic institutions and humanitarian organisations. This has sparked significant interest not only due to the recent typhoons but also because of the success of the Ecoville Project, which puts the university in a strong position to provide such a course.

In addition, for the teak industries involved in the livelihood programme of the project, accessed a body of labour and supply of material, as well as an expanded market due to XU’s connections across an extensive network of actors. For example, XU received donated saplings from the Philippine Wood Growers Association and then sold these trees back to the association when they were more mature for replanting in teak estates. The Philippine Wood Growers Association would then resell these trees to other teak growing businesses in the region.

Humanitarian Impact

By engaging multiple actors, the project was able to engage various sectors, including health and water, sanitation and hygiene, education, shelter, livelihood development as well as community governance in a harmonised approach. This project not only provided immediate relief to affected populations but also continued to look after the needs of the community through recovery, reconstruction and rehabilitation. Sustainability is a key feature of the project, which is being achieved through more effective management of waste, water and energy as well as the livelihood development programme, which aims to ensure that economic needs are met. The project has been well documented and the potential for replication in other areas affected by Typhoons Washi and Bopha, as well as in future disasters, has been highlighted. The community has now been relocated into permanent housing and are engaged in small businesses, including horticulture, small trading shops, teak growing, handicraft production, which is providing them with the necessary skills to enter the regular job market. An additional benefit of the project was the completion of the concrete pavement of the road leading from the National Highway to the settlement and adjacent barangays in Lumbia, which was given priority by the government following the attention the project received.
Case Study 6: Realigning disaster management frameworks to facilitate private sector and government collaboration

Petron Incorporated in the Philippines

Introduction

In recent years, Petron Incorporated has taken innovative steps to integrate sustainability into its business planning. Various initiatives have been launched through its CSR platform, Petron Foundation Incorporated (PFI), that address national concerns across education, environment, and health services, in partnership with communities, government units, other commercial actors and staff. PFI also coordinates disaster response for Petron Incorporated. This case study outlines how following recent extreme events, PFI has shifted its disaster management framework from post-disaster activities to a more preparedness-centred approach so as to synchronise with the new arrangements within national government.

Problem Statement

The bulk of private sector engagement in disaster management has traditionally been delivered in post-disaster phases of humanitarian operations commonly through the provision of cash, assets and logistical support. One reason for the focus on response is perceptual: as a public good, governments are expected to provide such services. In a practical sense, business is also deterred from engaging beyond their ordinary level of involvement given their assets are often managed by dedicated emergency response agencies. In the Philippines however, high frequency of extreme events and recurring damages experienced, as well as a growing national focus on risk reduction, has led to a greater emphasis among a wide variety of stakeholders to similarly think more strategically about their involvement in effective disaster management. For private organisations, government mechanisms can help facilitate their engagement in disaster management activities, but collaboration between the government and private sector actors is often compounded by differences in approach and ‘language’.

Overview of Initiative

The devastating impact of Typhoon Washi on both Petron’s business operations and Filipino communities stimulated the reorientation of the corporation’s disaster management activities from those centred on response to those focused on risk reduction. The shift to pre-disaster activities intentionally mirrored the similar post-Washi adjustments announced in the government’s National Disaster Risk Reduction and Management Plan (NDRRMP 2011–2028) in an attempt to reduce the impact on Petron’s business continuity, as well as to improve both collaboration with the government in times of emergency, and also the other actors with which the government partners.

PFI’s participation in the new National Disaster Risk Reduction and Management Council (NDRRMC) serves to support these ambitions. Spanning four strands including mitigation and prevention, preparedness, response and rehabilitation and recovery, coordination through the NDRRMC intends to enable more effective collaboration, mutual knowledge sharing and programme design across all phases of an emergency. In the context of the NDRRMP, PFI’s disaster risk reduction activities range from the organisation and training of Petron emergency response teams, to the management of disaster risks in areas of business operations, with many activities conducted via the NDRRMC in partnership with other stakeholders. Figure 1, overleaf, elaborates the particular activities now in place following PFI’s alignment with the government’s NDRRMP.
Table 1 // Components of Petron’s Disaster Management Programme

<table>
<thead>
<tr>
<th>Mitigation and prevention</th>
<th>Preparedness</th>
<th>Response</th>
<th>Rehabilitation and recovery</th>
</tr>
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<tbody>
<tr>
<td>Multi-hazard risk assessment and mapping; Manage the hazards, vulnerabilities and risks or areas of operations ( Undertaken by national and local gov’t agencies &amp; some NGOs)</td>
<td>Community-based Disaster Risk Management Program (in partnership with CNDR); Establish early warning systems (in partnership with Project NOAH); Conduct of IEC/ Advocacy campaign (with Sales, Marketing &amp; Corporate Affairs)</td>
<td>Continuous disaster monitoring (through the national &amp; local gov’t agencies, Petron field offices); Mobilize organized response; Rescue &amp; relief operations (with military)</td>
<td>Permanent housing</td>
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<td></td>
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<td></td>
<td>School building/school repair</td>
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<tr>
<td></td>
<td>Maintain a database of resources, location of infrastructures and their capacities such as evacuation centers (through CNDR)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Organize, train, equip and supervise local emergency response teams (through Petron Depot &amp; Plant Operations)</td>
<td>Conduct of soup kitchens (with volunteers, family members &amp; business partners)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Medical outreach (with military)</td>
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<tr>
<td></td>
<td></td>
<td>Provision of school supplies</td>
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<tr>
<td></td>
<td></td>
<td>Call for donations and employee volunteerism</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Petron retail network as drop off centres for donations</td>
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</table>
The value of Petron’s move to a preparedness-centred approach was demonstrated shortly after the change, when Typhoon Bopha made landfall over the southern island of Mindanao. Having pre-positioned equipment including rubber boats, tools and food and water supplies at over 2000 stations and company depots throughout the country, PFI was able to proactively mobilise these resources in support of the national search and rescue, relief and recovery effort. In addition, post-disaster assessments were swiftly carried out by Petron staff stationed throughout the Philippines. These assessments primarily evaluated damage to business infrastructure and facilities, but also provided information on the impact to affected populations, many of whom were staff members themselves. Petron has also recently started training for local communities on disaster risk reduction and coordinates these activities with government-led preparedness programmes.15

Petron is required to fulfil certain health safety and environmental obligations in support of its business operations, including training communities living in close proximity to its depots on safety and security. Having expanded its training under company HSE obligations to incorporate basic information on DRR, Petron has not only improved preparedness among local communities, but also among staff and partners. It has furthermore enabled PFI to engage with new expertise for DRR capacity building through membership of platforms such as the Corporate Network for Disaster Response (CNDR).16

Humanitarian Impact
Given the company’s national reach and substantial resources, PFI’s alignment with the NDRRMP and direct collaboration with the NDRRMC and similarly large corporations lends strong additional weight to domestic disaster preparedness, rescue, response and relief efforts. The model suggests that adoption by other commercial organisations in the Philippines is likely to produce similar effects, as well as develop a broader and more engaged group of actors in humanitarian efforts to reduce risk and deliver both more rapid and more effective responses to emergencies.

Business Case
Following Typhoon Ondoy in 2009, Petron experienced flood damage to several of its depots in the Manila area. This served as a catalyst for Petron to initiate preparedness efforts to safeguard its own depots and infrastructure and prevent future business interruptions. Alignment with government systems and national disaster risk reduction platforms enables the company to strengthen this initiative through constructive and proactive partnership. Moreover, the company’s preparedness activities have improved safety and security for local communities, many of which comprise Petron customers and staff.
Case Study 7: Enhancing resilience through the sharing of flood risk models

Willis Re in Jakarta, Indonesia

Introduction

This case study outlines Willis Re’s development and use of a flood risk model for Jakarta, Indonesia. It highlights how a model developed as part of Willis Re’s core business can also help government and local businesses to better understand the risks they face, and thus to plan, prepare for and insure against these risks—in turn serving to enhance the resilience of vulnerable communities.

Problem Statement

Beyond rhetoric, the data show that economic losses from weather- and climate-related disasters have increased.\(^{17}\) On top of this, the world’s population has expanded to seven billion, with over half of these people now living in cities, many of which are vulnerable to weather-related natural hazards such as tropical storms, cyclones and floods. Yet the specific risks faced by these populations, as well as their evolving vulnerabilities, are often poorly understood. Here, the (re-)insurance industry has a key role to play in drawing on its expertise in the development of extreme weather, and other risk, models to help governments, aid agencies and businesses better understand risk, as a combination of hazard, vulnerability and capacity.

Overview of Private Sector Innovation and Intervention

The windstorms that hit the UK in 1987 and 1990 coupled with Hurricane Andrew that hit the US in 1992 provided a shock to the insurance industry, both in terms of the scale of loss (Andrew was by far the biggest single loss in the industry’s history) and the frequency of events (for example, the 1987 storm was meant to be a one in 100 loss, but a bigger one followed three years later). The wave of catastrophe risk modelling emanating from these events—driven by a desire for an efficient (re-)insurance market, in which providers can operate sustainably—has led to the significant analytical capacities we see within the re-insurance industry today.

For its part, the global re-insurance broker, Willis Re has been investing in the Willis Research Network, the World’s largest financial services research network, with a membership encompassing 50 leading research institutions. The network aims to enhance ‘resilience by integrating first class science into operational and financial decision-making across public and private institutions.’\(^{18}\) Moreover, nearly all of the Network’s research is publicly available via its website. Therefore it is clear that there is now strong potential for the re-insurance industry’s core competencies in risk modelling to spill over to others outside the industry, particularly to the wider humanitarian sector. This can be seen at a more specific level in the case of Willis Re’s flood risk model for Jakarta, Indonesia. From 2–12 February 2007, floods, driven by unusually intense rain, hit Jakarta, east and west Java and Banten, Indonesia. Over 70,000 homes were flooded in and around Jakarta, leaving over 200,000 people displaced. Economic losses totalled USD 880 million. In terms of the insurance industry, the Indonesia General Insurance Association estimated this translated to an insured loss of approximately USD 400 million.

The 2007 floods in Jakarta highlighted a poor understanding of the risks facing South-East Asia’s most populous city. Therefore Willis Re, with Willis Research Network partners, developed its own flood risk model for Jakarta. The model sought to integrate meteorological and climate data in assessing the flood risk to the city, including...
rainfall; flow (water level, discharge); river cross-sections; tidal data and surface models and urban structures.

**Implementation Mechanism**

Willis Re developed its Jakarta Model using its in-house capacity in analytics (now representing approximately 20 per cent of all Willis Re staff) in cooperation with international partners, including the National University of Singapore and the University of Bristol, UK.

**Business Case**

With Indonesia’s economy continuing to grow at over six per cent year-on-year, its capital, Jakarta, represents a major regional market for the insurance industry. Therefore, as noted above, there is a clear business case for reinsurance brokers such as Willis Re to better understand the city’s exposure to natural hazards such as storm surges, rainfall flooding and subsidence.

With the exposure highlighted by the 2007 floods acting as a catalyst, there was a strong commercial rationale for Willis Re to develop a flood model for Jakarta, using its core competencies in risk quantification. This information can now be used to advise its insurance clients within Indonesia and the region, ensuring effective pricing, as well as helping to ensure the continued availability of reinsurance for Indonesian flood risk on the global reinsurance markets. Particularly after a large loss, defensible, transparent modelling is a pre-requisite for continuing market appetite and capacity.

**Humanitarian Impact**

The potential humanitarian impact of deploying such a model in planning, preparing for and insuring against the risks posed by natural hazards is clear. For example, Munich Re, working with a local insurer in Indonesia, used similar modelling to offer flood insurance protection to low income families in Jakarta. The Asian Development Bank (ADB) is promoting similar modelling initiatives elsewhere in South-East Asia as the first stage of programmes to protect local populations. They are also keen to use (re-)insurance expertise, although incentives have to be aligned as the processes is time consuming, data quality are variable and there is a global shortage of experienced modelers. Further, the Caribbean Catastrophe Risk Insurance Facility (CCRIF) has shown that success is predicated on ‘seed-corn’ funding to get the necessary modelling in place. What is clear, however, is the immense potential of risk models emanating from the re-insurance industry to enhance the resilience of countries and communities vulnerable to crises driven by natural hazards.
Case Study 8: Assessment of relocation sites and the provision of livelihood incentives to build future resilience

San Miguel Foundation Incorporated in the Philippines

Introduction

This case study outlines the San Miguel Corporation’s (SMC) use of its core technical skills to assess possible locations for community resettlement following Typhoon Washi in the Philippines. The initiative was implemented by the San Miguel Foundation Incorporated (SMFI) and the Petron Foundation, SMC’s corporate social responsibility units. The initiative also provided alternative livelihoods for those who were relocated, which not only provided an incentive for communities to move to the safe locations, but also gave SMC the opportunity to expand its activities in light of newly acquired core competencies and to increase their supply of materials for their production.

Problem Statement

Following disasters, survivors typically wish to return to their homes as quickly as possible, partly due to their desire to resume their livelihoods following major disruption. However, disasters, especially those that have previously not been experienced by a community, highlight not only the immediate danger of subsequent events such as landslides following floods, but also the potential long term risk of further hazards. Therefore, returning to locations that have been impacted by such disasters should in some contexts be questioned.

In December 2011, Typhoon Washi (locally known as Sendong) brought 10 hours of torrential rains that triggered disastrous flash flooding over Mindanao, an area that rarely experiences such tropical storms. Thousands of people were killed overnight as flood waters and landslides destroyed homes along mountain sides, and residents were forced to seek refuge on their roofs amidst 90 km/h winds.19 In total, 1,257 people lost their lives, and more than 1.1 million people were displaced as a result of this severe tropical storm.20 The estimated cost of damages to infrastructure, agriculture and school buildings amounted to PHP 1,455,825,723.40.21

Many of the survivors of Typhoon Washi could not return to the sites of their original homes as they were deemed to be at high risk of subsequent flooding and landslides. However, communities were hesitant to move to new locations, since relocation to new sites would inevitably require them to seek alternative livelihoods. Therefore, incentives for relocation had to be created that took into account safety criteria as well as the necessary revival of social-economic activities.

Overview of Initiative

In the aftermath of Typhoon Washi, immediate relief operations were carried out in various evacuation centres in Cagayan de Oro and Iligan through the combined efforts of SMFI and the Petron Foundation, both part of SMC. SMC also donated an estimated PHP 12,000,000 in products and cash for the victims of the typhoon. However, beyond this, SMFI and the Petron Foundation worked with other partners, including the Department of Social Welfare and Development (DSWD), the Corporate Network for Disaster Response and the Laguna Lake Development Authority, to provide assistance in other ways where the need was greatest.

Hundreds of families were displaced and needed to be relocated to new housing areas that were deemed safe. SMFI mobilised its in-house geologist to assess the areas designated for housing of affected populations, ensuring that the proposed housing areas were not at risk of future disasters,
particularly flooding and landslides. Once these areas were certified as safe, SMC then donated PHP 500,000,000 (approximately USD12.2 million) to its national NGO partners, Habitat for Humanity and Gawad Kalinga—both experts in low-cost housing—to rebuild new homes for the affected populations in Cagayan de Oro, Iligan and Dumaguete. A Memorandum of Understanding (MoU) was signed between SMC, Gawad Kalinga and Habitat for Humanity, and local government units to identify relocation sites and then build permanent homes for thousands of families.

SMC’s initiative also created alternative livelihood options for relocated communities. Projects included assistance in the development of small bake shops and sundry businesses, and as well as the establishment of call centres and business service centres which provided job opportunities in the new relocation areas. SMFI also provided opportunities for communities to engage in bamboo planting to bolster their income, to prevent soil erosion and to provide an additional source of food for the undernourished people affected by the typhoon.

Business Case
San Miguel Corporation is the Philippines’s largest beverage, food and packaging company. In recent years, the company has significantly expanded its activities to include those relating to heavy industries including power and other utilities, mining, energy, and airports. Today the company has over 100 facilities in the Philippines, Southeast Asia, and China. The post-Typhoon Washi initiative allowed SMC to utilise its expanding core competencies in construction and risk management. The initiative has also allowed SMC to further expand its activities to include outsourced business services, a rapidly growing industry in the Philippines. In addition, the bamboo harvested through the plantation initiative is purchased by SMC and its partners to provide bamboo sticks required by their food production activities.

The post-Typhoon Washi initiative signalled a new chapter in SMC’s way of doing business. The Corporation has now developed a comprehensive disaster management project through its social development programme, implemented by San Miguel Foundation Incorporated. This programme includes relief distribution to disaster-stricken areas, but critically the expansion of livelihood projects aimed at building resilience. SMC views its social development programme as an important investment tool and a way of ensuring mutually beneficial strategic partnerships.

Humanitarian Impact
This intervention allowed for 5,000 families to be relocated without the worry of finding new alternative sources of income. This provided the incentive for communities to relocate to the safe areas, significantly reducing the number of people returning to their unsafe previous homes. The initiative also provided business development opportunities, resulting in new start ups for trading, service centres and food industries. The initiative was therefore seen as mutually beneficial because it promoted self-reliance and sustainability.
Endnotes

1 See www.humanitarianinfo.org/iasc/pageloader.aspx?page=content-template-default&bd=87

2 The LET is a partnership of four leading logistics companies—Agility, A.P. Moller-Maersk, TNT and UPS—and the UN Global Logistics Cluster, led by WFP. See www.logisticsemergency.org/

3 Initially KSh 2,150 (USD 27) was paid out to beneficiaries every two months. The value of the transfer increased from KSh 2,150 to KSh 3,000 per household every two months from September–October 2011, and then to KSh 3,500 from May–June 2012.

4 The service is free up to three withdrawals per month, with all withdrawals thereafter attracting a small service charge.


6 Since 2001, the World Economic Forum has supported the establishment of a Disaster Resource Partnership for the E&C sector that aims to promote cross-sector collaboration for building resilience to disaster risks. Currently there are three national networks including India, Mexico and Indonesia—launched in 2011.

7 Ten initial member companies include: PT. Amec Berca Indonesia, PT. Fp (Persero) Tbk, PT. Wijaya Karya (Persero), Tbk., PT. Waskita Karya, PT. Total Bangun Persada, Tbk., PT. Jaya Konstruksi Mangala Pratama, Tbk., PT. Tatamulia Nusantara Indah, PT. Balfour Beatty Sakit Indonesia, Sukamata & Partners, PT. Yodya Karya (Persero).


9 Including Habitat for Humanity and the Philippines Red Cross.

10 The Philippine Atmospheric, Geophysical and Astronomical Services Administration, abbreviated as PAGASA, which means ‘hope’ in Tagalog) is a Philippine national institution dedicated to provide flood and typhoon warnings, public weather forecasts and advisories, meteorological, astronomical, climatological, and other specialised information and services primarily for the protection of life and property and in support of economic, productivity and sustainable development. The government agency was created on 8 December 1972 by virtue of Presidential Decree No. 78 reorganising the Philippine Weather Bureau into PAGASA. www.pagasa.dost.gov.ph/history.shtml.


12 www.reliefweb.int/sites/reliefweb.int/files/resources/NDRRMC%20Update%20SitRep%20No%2040%20Effects%20of%20TS%20SENDONG.pdf

13 www.ndrrmc.gov.ph/attachments/article/358/SitRep%20No.%2040%20Effects%20of%20TS%20SENDONG%20as%20of%203%20Jan%202012,%20%208%20AM.pdf


16 For more on the Corporate Network for Disaster Response, see: www.cndr.org.ph/

18 See www.willisresearchnetwork.com/


20 www.reliefweb.int/sites/reliefweb.int/files/resources/NDRRMC%20Update%20SitRep%20No%2040%20Effects%20of%20TS%20SENDONG.pdf

21 www.ndrrmc.gov.ph/attachments/article/358/SitRep%20No.%2041%20Effects%20of%20TS%20SENDONG%20as%20of%2017%20Jan%202012,%2008AM.pdf