



XL Reinsurance

Disaster Recovery Case Studies Philippines 2013: Typhoon Haiyan

In cooperation with

Centre for
Risk Studies



UNIVERSITY OF
CAMBRIDGE
Judge Business School

2013: Typhoon Haiyan

Introductory Commentary

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The important role of (re)insurance in the speed of physical and economic recovery after a major disaster, especially when there is little to no coverage due to unavailability, insufficient capacity or lack of take up (predominantly because of economic reasons), has not really been studied in detail. The (re)insurance industry tends to focus on the potential for future events and events in the immediate past. However, there is a need for a deeper understanding of the aftermath of disasters over a longer time frame, as well as an understanding of the impact that insurance penetration has on the pace of economic recovery.

Working with Cambridge Centre for Risk Studies at the University of Cambridge Judge Business School (CCRS) we have been examining more than 100 catastrophes across the world over a three-year timeline to compare and contrast outcomes and establish conclusions and recommendations. A consolidated report will be released later in 2020 but the case studies (this one covers 2013 Typhoon Haiyan) produced by CCRS were so interesting and of such quality we thought it would be beneficial to share these as they became available. In the future we intend to make available publicly all of the detailed work from all of the case studies in an open source database whilst also establishing a template to study and collect data from future catastrophes in a more structured way.

Our aim is for this work to be used as a tool by policymakers and governments worldwide when evaluating disaster preparedness and seeking to fully understand, from the lessons learned by others, the impact of displacement of populations; increasing personal debt levels; change in economic mix of industry; political upheaval and overall time to recover, among other things. Intuitively, we know the speed and scale of protection the (re)insurance industry provides dramatically reduces the recovery time for communities which have suffered through extreme catastrophes. However, we believe that it is imperative that this be demonstrated in more detail with evidence and placed in front of the right people to effect change – particularly governments.

We also want to explain the marginal increased cost in relation to the value of rebuilding with resilience – what we call “building back better” – over and above the cost of replacement. The (re)insurance industry needs to provide extra limit and contractual stipulations for “building back better” to minimize the impact of future disasters. In addition to this, we want to demonstrate the importance of "building better before", that is encouraging our partners, including governments, through funding with NGOs, banks and other bodies to retrofit properties and strengthen vulnerabilities to avoid losses in the first place. This should result in savings on future insurance costs which would more than finance the initial upfront investment.

We are starting to see good progress in terms of the increased role of governments in closing the gap between economic loss and insured loss – since we started these papers we have seen the FEMA program in the US placed in the market for the first time; Flood Re in the UK become fully operational and the California Wildfire Fund established by the State of California and managed by the California Earthquake Authority (CEA), at least initially. The current pandemic is another unfortunate example of the difference between economic risk and insurance coverage with many businesses not prepared and not covered for what is a foreseeable peril. The enormous exposure made clear in the COVID-19 pandemic is far greater than the (re)insurance industry’s capital base and future coverage can only be provided with governmental assistance. AXA XL Reinsurance are formulating ideas for possible future structures based on our work understanding Government Pools in 2018 and will be sharing this work in due course.

There are discussions happening in numerous countries within the industry about working with government to provide some form of pandemic coverage. This work together with the more recent schemes where governments are de-risking are encouraging and signs of the partnerships being built up between governments and the industry. We will continue to support these initiatives with reinsurance and by sharing our findings from studies such as these.

The views, findings and opinions in this case study are those of the researchers at CCRS and not necessarily those of AXA XL. Notwithstanding this, we are proud to be associated with this project and are sure that by gaining a greater level of understanding, we will ultimately develop more catastrophe reinsurance solutions and, more importantly, show the world the true value and social benefit of (re)insurance.

AXA XL is the Property & Casualty and Specialty division of AXA Group: providing products and services through four business groups: AXA XL Insurance, AXA XL Reinsurance, AXA XL Art & Lifestyle and AXA XL Risk Consulting.

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Abstract

In 2013, Typhoon Haiyan devastated the Philippines to be counted among the most severe tropical storms to be experienced by the nation in recorded history, impacting the central Eastern Visayas region including the provincial capital of Tacloban. There were 7,354 fatalities, 4.1 million people were displaced, over 16 million people were affected, and the economic loss totalled around US\$13 billion, although the long-term macroeconomic impact was negligible. This case study examines the impacts of the typhoon in the Philippines – a lower-middle income developing economy with relatively low non-life insurance penetration – and the subsequent socioeconomic recovery. The study focuses on Tacloban and the wider Eastern Visayas region, which were the worst affected regions. The Philippines ranks amongst the most natural catastrophe-prone countries and suffers regular high-magnitude events which demand concerted efforts to address the risk.

Following the 2013 event, the recovery process has demanded significant time and resources and elements of the process continue to the present day. The sheer scale of the event presented an unprecedented challenge to public organisations responsible for recovery, and therefore there was a reliance on external aid. Global interest in the event invited a huge external response and aid operation.

Nevertheless, recovery was largely viewed as successful in terms of speed and quality. In the aftermath of the event, progress on rehousing displaced people was slow and seven years later the housing stock is yet to fully recover and those displaced have not returned home. In contrast, the economy recovered relatively quickly, and industry, agriculture, and the service sector returned to nearly full production within three to four years. All sectors, apart from housing, returned to similar states of safety and amenity as before the event in terms. Two-thirds (68%) of experts surveyed thought there had been an improvement in the resilience of housing, although housing had not fully recovered at the time of the survey. 92% of respondents thought insurance speeded recovery, with 12% suggesting that homes and business with coverage recovered more than one year faster. In localised regions, notably Tacloban, there was a significant drive to build back better, through relocation away from hazard areas and resilient design of infrastructure. The disaster demonstrated the importance of stability and continuity of livelihoods and income in creating resilience, and success was seen where survivors were provided with cash rather than kind. Insurance penetration is very low in the Philippines and only 7% of the total economic loss was insured.

A significant disaster renders those affected indebted, so they have little financial resilience against further disasters, and ex-post borrowing is more costly than ex-ante premium. This event, and other severe typhoons and other natural disasters that have occurred since, therefore emphasise the opportunity for an increased role of insurance.

Section 1: Event Context

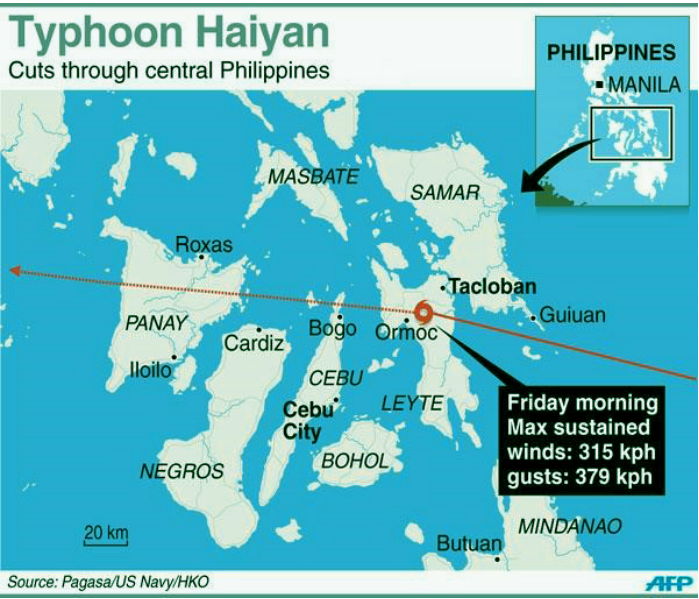


Figure 1: Trajectory of Typhoon Haiyan 8th November 2013 and inset map of region

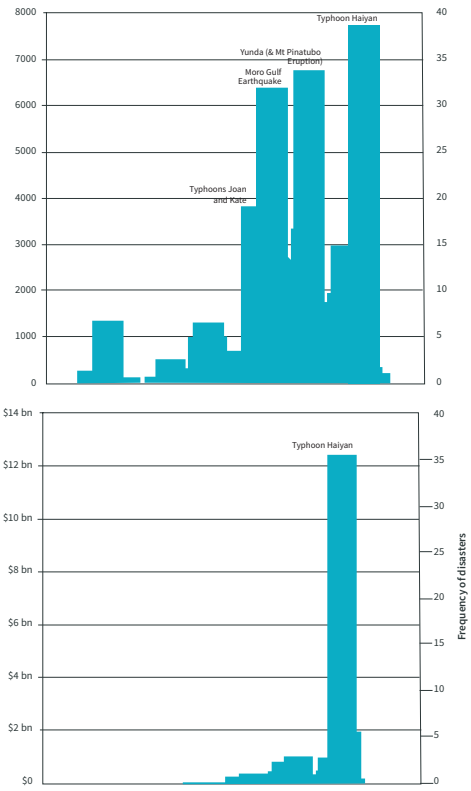


Figure 2: Philippines deaths (top); and damage (bottom), due to natural disasters (Guha-Sapir et al. 2018).

Event Overview

In 2013, the Philippines was hit by multiple catastrophes within a month. Typhoon Haiyan (known locally in the Philippines as Yolanda) devastated the Eastern Visayas region of the central Philippines, including the provincial capital of Tacloban. It first made landfall on 8th November 2013 in Eastern Samar, hitting the eastern municipality of Guiuan at 4:40 a.m. (local time) while most citizens were asleep. Subsequently, Haiyan progressed westward to its main landfall south of Tolosa, Leyte Island (at 07:00 a.m.), and made four subsequent landfalls as it crossed the central Philippines (Figure 1). Considered one of the most powerful tropical cyclones in recorded history, Haiyan sustained maximum winds of up to 315 km/hr, making it a ‘Super Typhoon’ and equivalent to a Category 5 Atlantic hurricane on the Saffir-Simpson scale.¹ Observed wind speeds and central pressures were among the most extreme recorded for any tropical cyclone worldwide. Typhoon Haiyan left a trail of destruction across Southeast Asia and China, affecting over 44 million people and causing 7,846 fatalities.² In the Philippines there were 7,354 fatalities, 4.1 million people were displaced, over 16 million people were affected and the total economic loss reached US\$13 billion. The private sector bore about 90% of this loss.³ Three weeks prior to Haiyan’s occurrence, on 15th October 2013, the central Visayas regions of the Philippines was devastated by the magnitude 7.2 Bohol earthquake. Its impacts were highest in Bohol and in Cebu. 230 people were killed, and over 3.2 million people were affected.² 73,000 structures were damaged or destroyed, and the economic loss totalled US\$51 million.⁴

Typhoon Haiyan was among the most severe natural catastrophes experienced by the Philippines in recorded history (Figure 2). Tacloban City, the ‘epicentre’ of destruction, suffered 3,000 fatalities, representing a significant proportion of the total death toll.⁵

1 Lagmay et al. 2015
2 Guha-Sapir, Below, and Hoyois 2018
3 DSWD et al. 2014
4 NDRRMC 2013
5 DSWD et al. 2014

Socioeconomic Context

The Philippines is defined as a lower-middle income developing nation, with a population of almost 105 million in 2017, and a rapidly developing ‘Tiger Cub’ economy transitioning from predominantly agriculture to services and manufacturing. The economic growth rate of at 7.6% was strong in the first half of 2013 prior to the disaster.⁶ However, major disparities in income and growth exist between the country’s different regions and socioeconomic classes, and approximately 26% of the overall population lies below the poverty line. The Philippines is governed by a highly centralised unitary government centred in Manila and ranks high on corruption – 94th of 177 countries.⁷ The Eastern Visayas, with a total population of over 4.4 million (2015 census), was the most severely impacted region in the Philippines. Tacloban City, its capital, has a population of about 240,000 and is among the fastest developing cities in the Philippines and was the first in the region to become a ‘Highly Urbanised City’, allowing greater governmental autonomy. Tacloban is a major tourism hub and gateway to Eastern Visayas, with the largest airport in the region, receiving 472,300 tourist arrivals in 2015.⁸ It is also the regional centre for business, finance, and education.

6 World Bank 2018
7 Transparency International 2017
8 City Gov. of Tacloban 2018
9 UNU-EHS 2016
10 UNISDR 2015
11 Milman 2015

Risk Landscape

The World Bank Risk Index (2016) ranks the Philippines as the third most natural disaster risk-prone country in the world.⁹ The Philippine archipelago is highly exposed to a variety of natural hazards, including typhoons, earthquakes, tsunamis, floods, landslides, and volcanoes. Average annual losses represent 14% of the Philippines annual capital investment, and nearly 69% of annual social expenditure.¹⁰ Of these hazards, in the past century, typhoons have affected and killed the most people and caused the highest economic losses (12% of the country’s capital investment). On average, it experiences 20 typhoons per year, typically between July to October.¹¹ This puts the Philippines’ proportion of capital investment at risk to tropical cyclones amongst the largest globally.

Research Approach

The Cambridge Centre for Risk Studies conducted extensive research into the impacts of tropical storms and the characteristics of storm recovery. This case study is informed by secondary literature sources and supported by two surveys. The first, an observation study and workshop surveys of business recovery, focusing on tourism in the islands of Bohol, Cebu, and Bantayan conducted in July 2016, nearly three years after Typhoon Haiyan. The second was an on-line and telephone survey in mid-2018, nearly five years after the disaster, aimed at sampling opinion on different aspects of recovery, including its speed and quality, in specified sectors of society. The survey participants were people working and/or living in the affected region during and following Typhoon Haiyan, or whose work concerned recovery after the disaster. 30 participants were surveyed, including humanitarian and NGO workers, disaster managers, recovery experts (for example in the fields of shelter or health), academics, and journalists. The following sectors were surveyed: housing, economy, employment, population, infrastructure and non-domestic buildings.

Section 2: Disaster Impacts

Overview

The results of the recovery survey indicate that the impacts were severe or very severe across all sectors (permanent housing, economy, employment, population, infrastructure, and non-domestic buildings), with housing suffering, on average, the worst damage and some areas experiencing total destruction (Figure 3).

Physical Impacts

Storm surge is a relatively unusual phenomenon in the Philippines, which is predominantly surrounded by deep ocean; but extreme winds, combined with the shallow waters of San Pedro Bay, stimulated a storm surge up to seven metres high that was channelled into Tacloban City and the surrounding coast, where damage and casualties were therefore more severe.¹² Intense rainfall was recorded between 6th and 9th November, which increased flood water levels and contributed to structural damage due to hydrostatic pressures and non-structural damage due to water ingress.¹³ Haiyan subsequently tracked northwest across the South China Sea, affecting Taiwan, China, and Vietnam. Table 1 outlines the damage in the Philippines by region.

Table 1: Damage by Region
(figure from Bravo et al. 2014)

Region	Damage and Loss (USD B)	\$ GRDP
IV-A Calabarzon	3.2	0
IV-B Mimaropa	114.4	2.5
V Bicol	45.5	0.8
VI Western Visayas	750.2	7.3
VII Central Visayas	261.7	1.7
VIII Eastern Visayas	1098.9	17.4
XIII Caraga	18.7	0.7
Philippines	2292.6	0.9

12 Soria et al. 2016
13 Jagnarine-Azan 2014

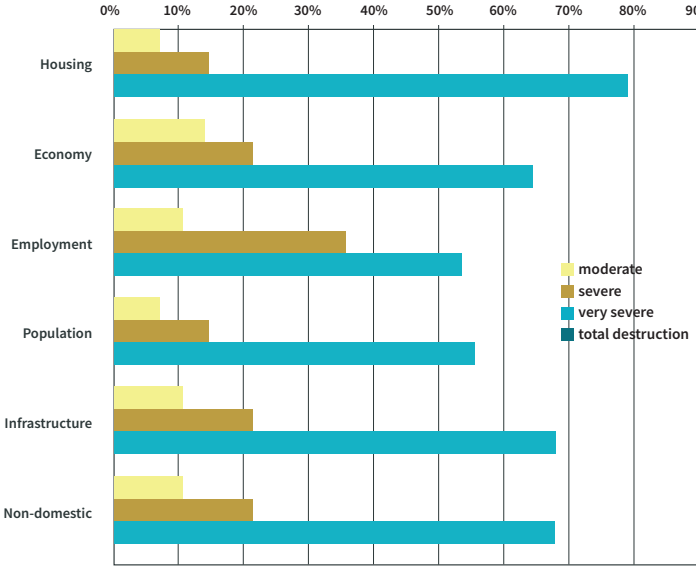
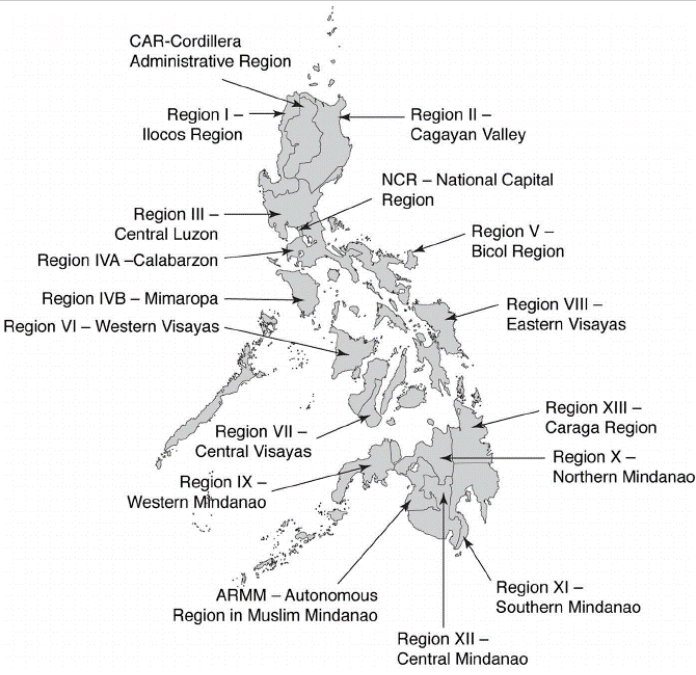


Figure 3: Severity of impacts produced by Typhoon Haiyan
(Cambridge CRS survey 2018)



Social impacts

Over 20,000 people evacuated Tacloban City. The storm surge hazard hadn’t been envisaged by evacuation plans, so tragically, many people died in evacuation centres that were flooded or did not withstand the storm.¹⁴ An International Organisation for Migration (IOM) survey (2014) survey in 10 of the most affected towns in Eastern Samar and Samar showed that only 53 of the 634 pre-Haiyan evacuation centres identified by the government could be used in the event of another typhoon. As in many disasters, there was a gender dimension to Haiyan and many men chose to remain at home to protect belongings and were drowned.¹⁵ Areas less affected reported that their populations more than doubled after the typhoon with the influx of refugees.

Economic Impacts

Damage, loss and the cost of reconstruction by sector are detailed in Table 2. The total economic damage and loss amounted to nearly US\$13 billion.

The storm did not directly impact Manila, where much of the Philippines' economic wealth is located. The worst hit Eastern Visayas region accounted for about 2% of GDP, where agriculture, particularly sugarcane and rice production, is the major industry, while manufacturing and services – including mining, fishing, and tourism – also contribute significantly to the economy, and were each damaged and disrupted by the Typhoon. The estimated total loss to the main industries in the region was US\$324 million, only 0.2% of national GDP. Many of the affected islands, including Bohol, Cebu, and Bantayan, are popular tourist destinations, and in the aftermath of Haiyan, hundreds of tourists were left stranded for days.¹⁶ This provoked international media attention, frightening away tourists and triggering mass cancellations, impacting the industry not only within the Central Visayas, but across the country.¹⁷ Other impacts included widespread environmental degradation, oil and sewage leakage into ecosystems, destruction of 33 million coconut trees, destruction of 3-4% of sugarcane, damage to roads which provide links between farms and markets, and devastation to fishing communities who lost boats and equipment. The national economic growth rate marginally slowed in the months after Haiyan, but subsequent strong growth demonstrated that, as is the case for other major disasters, Haiyan had a negligible macroeconomic impact. Among the regions, VIII, VI, and VII were the hardest hit, with Eastern Visayas bearing the highest damage and loss, representing 17.4% of the expected 2013 Gross Regional Domestic Product (GRDP).

Table 2: Damage, loss and reconstruction cost by sector (NEDA, 2013)

	Damage	Loss	Total	%	Recovery	%
Agriculture	709	698	1,407	11%	423	5%
Industry, Services	906	1,722	2,628	20%	1,604	20%
Housing	6,885	485	7,370	57%	4,150	51%
Education	491	50	542	4%	688	8%
Health	71	55	126	1%	156	2%
Local Government	91	7	97	1%	97	1%
Social protection					417	5%
Transport	141	1	142	1%	169	2%
Roads, bridges etc	96	7	104	1%	117	1%
Electricity	155	197	352	3%	225	3%
Water and sanitation	68	105	173	1%	130	2%
Total (US\$m)	9,613	3,327	12,941	100%	8,177	100%

14 Walch 2018
15 Faure Walker and Alexander 2014

16 GFDRR 2014
17 Khazai, Mahdavian, and Platt 2018

Section 3: Disaster Management and Resourcing

Disaster Management

The Philippine government issued typhoon warnings a week before Haiyan’s landfall, and the extent and height of storm surges were predicted two days in advance.¹⁸ Each barangay (local government) had its own disaster management plan and some were better prepared than others; Tacloban had inadequate contingency plans.¹⁹ There was a mixed response to warnings and many people did not evacuate immediately because of concerns about the safety of family members, belief that staying at home would be safer and uncertainty about the typhoon’s magnitude.²⁰ People relied on the experience of previous events, but none had experienced an event of this extreme magnitude before.²¹ Storm surge is rare in the Philippines and although warnings were issued, they were not well understood, and people did not appreciate the severity of anticipated flooding. Even government officials were unaware of the risk and remained in the beach houses despite the evacuation orders given by their own local government.²² Furthermore, previous experience of life in evacuation areas had been worse than remaining in their coastal homes. Nevertheless, approximately 800,000 were evacuated to designated centres.

In July 2014, eight months after the event, the Philippines transitioned from relief to recovery.²³ Hit hardest, the Eastern Visayas experienced the greatest recovery challenges. But the scale of damage was not the only determining factor; larger populations, such as Tacloban City, could mobilise more resources in terms of expertise and finance to aid recovery.

Despite the importance of livelihoods, agencies focused on shelter.²⁴ More than four million people were displaced in the Philippines, and of these only about 100,000 were housed in provided shelters while the vast majority were accommodated by host families or in makeshift shelters.²⁵ Despite the disaster risk, the vast majority of those displaced returned to where they had lived, even if their homes had been completely destroyed, because they had little choice but to return to where their livelihoods were located.

18 Lagmay et al. 2015
19 Walch 2018
20 Soria et al. 2016; Leelawat et al. 2014
21 Dalisay and De Guzman 2016
22 Walch 2018
23 Torregozo 2016
24 Sherwood et al. 2015
25 IFRC 2015; DSWD 2014

Authority

The Philippines’ political system, with an emphasis on patronage, regionalism, and a lack of a strong central government, intensifies partisan infighting that hampers disaster management, and entrenched political families holding authority has eroded trust in the state and its officials.²⁶ Therefore, when local officials asked people to evacuate, few believed the warnings, or feared the government would use it as a way to relocate them by force.

Financing

It was estimated that over US\$8 billion would be needed to recover the economy and financial aid was provided by the Philippines government, international organisations, foreign governments, and NGOs, and to a lesser extent, insurance.²⁷ A far larger proportion of total aid came from international donors and through NGOs. Remittances are the lifeline in everyday life in the Philippines and in the immediate aftermath of Typhoon Haiyan remittances grew by US\$600 million.²⁸ However, finance was not uniformly distributed and NGOs penalised households that had previously received aid regardless of the timing and amount. Families in illegal settlements, often the worst impacted by Haiyan, were the least able to recover, as insecure land tenure prevented them from accessing state support and the disaster exacerbated existing inequalities.²⁹ The Philippines’ Department of Social Welfare and Development (DSWD) emergency cash assistance programme targeted 500,000 of the most vulnerable households in the affected area and each family received an extra US\$30 per month.³⁰ Families affected by the disaster were to be compensated US\$226 for each dead relative, and half this amount for those injured.³¹ Public employment programmes provided cash for clean-up work for those that lost their livelihoods.

26 Bankoff 2003
27 NEDA 2013
28 Curato 2018
29 Curato 2018
30 DSWD 2014
31 Swiderek and Wipf 2015

Section 4: Recovery and Resilience

Overview

Recovery is defined as a return to normality and an attempt to bring the post-disaster situation to some level of acceptable performance. However, a post-disaster ‘normal’ may not be a return to the same status as before the event, especially if safety and amenity can be improved to enhance resilience and achieve a new normal. Recovery from disaster can therefore be viewed as a process of resilience building, whereby the capacity of a community to spring back after the initial shock of a disaster is increased. Although there is a strong imperative to recover quickly and get people back home and business back in operation, a balance must be achieved between speed and enhanced resilience. Our survey of experts was performed in mid-2018, nearly five years after Typhoon Haiyan, and so provides an indication of the overall speed and characteristics of recovery.

Table 3: Speed of recovery (months to recover ≥90%)

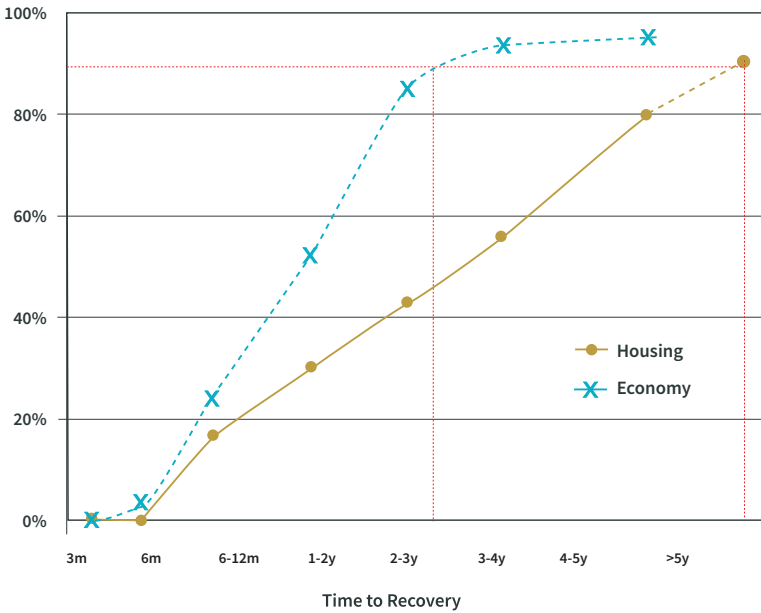
Sector	Months to recover ≥90%
Housing	84
Economy	39
Employment	33
Population	30
Infrastructure	47
Non-domestic buildings	41

32 DSWD et al. 2014
33 Sherwood et al. 2015

Speed of Recovery

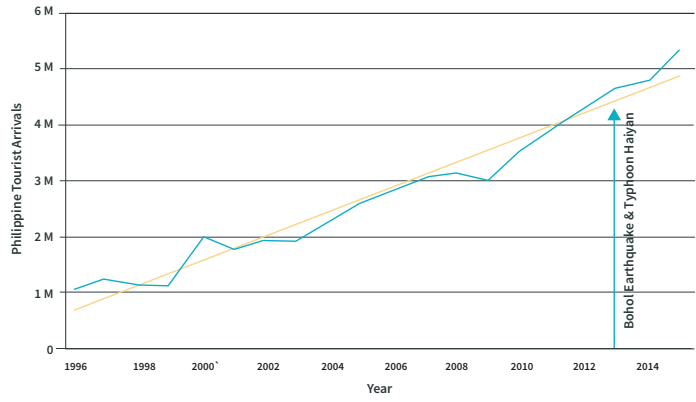
More than two million people remained in temporary accommodation 6-8 months after the disaster and promises of permanent structures were slow to materialise. Access to education, healthcare, transport, markets, and income, as well as unclear tenure and property arrangements, impeded the return of displaced people.³² One and a half years later, hundreds of thousands of families had returned to and were working to rebuild homes and re-establish livelihoods, all of the tent cities had been closed and nearly half of the residents in temporary ‘bunkhouses’ had returned to their communities or received support to move elsewhere.³³ Plans to relocate families from areas that remain highly exposed to future disasters were made and implemented. Our survey was performed in mid-2018, nearly five years after Typhoon Haiyan, and so provides an indication of the overall speed and quality of recovery. Table 3 and Figure 4 show the speed of recovery as estimated by the on-line survey of experts. Progress on rehousing displaced families the slowest of all recovery indicators assessed in the survey. It took 4-5 years to rehouse most displaced families and until now, 7 years after the disaster, for housing to fully recover. In contrast, the economy recovered more quickly and industry, agriculture and the service sector returned to nearly full production within 3-4 years. The total population of the affected region recovered the fastest, with an average respondents’ estimate of 30 months, as new people migrated into the area from other parts of the Philippines.

Figure 4: Speed of Recovery



Tourism, both national and international, is an important part of the local economy. Recovery of the tourist sector was quicker than expected and although, a year after the event, many international tourists remained hesitant to visit the affected region, national tourist numbers increased by one-third in 2014. Figure 5 shows a relatively constant 8% increase in international tourist arrivals in the Philippines from 1996-2015, and the 2013 disasters appear to have resulted in only a minor dip in this trend, indicating that non-affected destinations in the Philippines absorbed the temporary disruption to tourism in the Visayas region. In 2015-2016, more than a million tourists visited the Eastern Visayas provinces (Leyte, Southern Leyte, Samar, Eastern Samar, Northern Samar, and Biliran), contributing approximately US\$182m to the regional economy. However, during this period, tourism remained largely dependent on local travellers. Subsequently, an increased demand from international travellers has seen strong tourism growth rates.³⁴

Figure 5: International tourist arrivals in the Philippines from 1996 to 2015, showing a relatively constant 8% increase (FFCCCII 2014; Khazai et al. 2018)



34 Citrinot 2017
35 Swiderek and Wipf 2015

Khazai et al. (2018) carried out a survey to compare the state of recovery on Bohol, Cebu, and Bantayan islands – each popular tourist destinations – 2.5 months after the event. Their focus was on tourism, and a group of 40 chosen ‘expert’ sector stakeholders participated. The study found that recovery progressed at different rates, dependent on the severity of damage and population of the islands. Across the three destinations studied tourist destinations, recovery efforts concentrated on reinstating services, including shopping centres, telecommunications, and banking facilities, for foreign and local tourists and business. Within 2.5 months, all three destinations were welcoming tourists from across the Philippines, many of whom were visiting to show support for the affected region. International arrivals recovered at a slower rate. Physical recovery, despite heavy damages, was also relatively speedy and debris clearance took about six months. But telecommunications services were still limited, and regular brownouts were being scheduled on Saturdays to preserve power 6-7 months after the event.³⁵

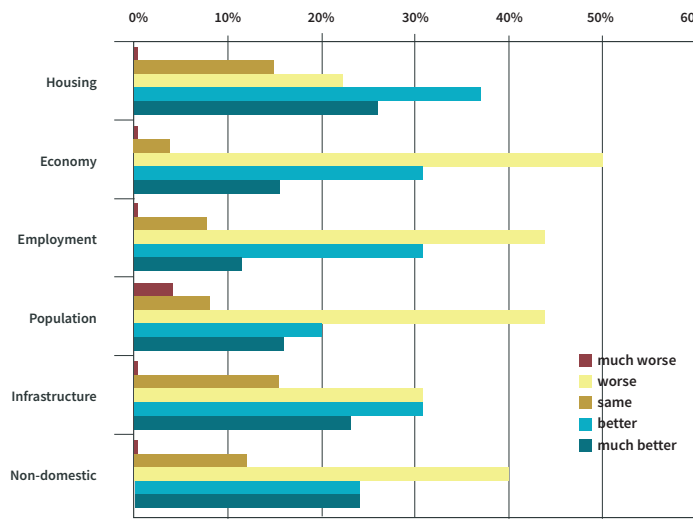


Quality of Recovery

Asked about the quality of recovery, about half the experts thought that all sectors apart from housing had remained the same in terms of safety and amenity. In housing over two-thirds (68%) thought there had been an improvement, although as was mentioned earlier, housing had not fully recovered at the time of the survey five years after the disaster. In the other sectors, apart from population where there may have been doubts about the 'quality' of migrants, 44-58% thought that there had been improvement. However, a significant minority thought the quality of recovered housing (16%) and infrastructure (17%) was worse or much worse (Figure 6).

The Philippines government promoted the relocation of affected populations away from coastal areas – in Tacloban, to permanent houses on safer ground in the north of the City. In Tacloban and the surrounding coastline, a no-build zone was established within 40 metres of the shoreline. Tacloban City began the recovery progress promptly, simultaneously reviewing its development plans for a resilient and sustainable future. Planning exercises were conducted with the participation of business stakeholders, grassroots and barangay representatives, consultants, and academics, through partnership with USAID, UN-Habitat, and JICA. The flagship project is the new township of ‘Tacloban North’ in areas to the north of the city with the lowest natural hazard risk.³⁶ Two years after Haiyan, Tacloban City experienced a renewed boom, with strong economic growth and tourism.

Figure 6: Quality of Recovery by Sector



36 City Gov. of Tacloban 2018

One and a half years after Haiyan, the government had identified some 205,128 (temporary and permanent) households in need of relocation away from hazardous areas, and this process took 3-4 years to complete.³⁷ Relocation programs have pushed coastal residents out of urban centres and forced them to relocate to the northern part of Tacloban City, far from downtown livelihood opportunities.³⁸ To comply with the state’s ban, many survivors remained living in tents instead of sturdier transitional shelter.³⁹ Communities, however, were not involved in decision-making and, as a result, access to livelihoods was insufficiently considered, and members of relocated families returned to their former homes to make a living from the sea.⁴⁰ Those within the no-build zones seemed to have little idea about where they should relocate and flimsy structures reappeared in the coastal areas.⁴¹ By framing Typhoon Haiyan as a climate disaster, international NGOs tailored their response to abide by the state’s decision to prohibit the rebuilding of informal settlements in hazardous areas and this has caused further marginalisation of vulnerable communities and exposed them to risk.

NGOs, such as the Philippine and International Red Cross, contributed by teaching simple construction techniques to build more resilient homes, and thousands of community volunteers helped to communicate disaster risk mitigation and adaption strategies.⁴² There was a need for further training programs to ensure that rebuilt houses would be less vulnerable to future natural disasters. But these efforts to build back better were limited by the scale of the disaster, as beneficiaries of these projects represented only a fraction of those affected and more isolated communities were left to rebuild with whatever resources they could find.

37 Curato 2018
38 Porteria 2015
39 Curato 2018

40 Sherwood et al. 2015
41 Faure Walker and Alexander 2014
42 IFRC 2015

By framing Typhoon Haiyan as a climate disaster, international NGOs tailored their response to abide by the state’s decision to prohibit the rebuilding of informal settlements in hazardous areas and this has caused further marginalisation of vulnerable communities ...



79%

of respondents thought funding was adequate or more than sufficient

37%

of respondents stated that funding was provided quickly, within a month or a few months after the event

Section 5: Discussion

Predictably, all respondents thought that aid was crucial to recovery. Asked whether sufficient funding (from all sources) was provided for recovery, over three-quarters (79%) of respondents thought that funding was adequate or more than sufficient. Funding came primarily from external governments and NGO donors, particularly the UK, EU, and US. And 37% of respondents said that funding was provided quickly (within a month or few months after the event), and a further 30% gave a neutral response, indicating that, in general, remittances were timely to facilitate recovery.

Survey participants were asked if anything went particularly well or badly, and if they thought there were there any lessons learnt. In terms of successes, there was an overwhelming immediate response from within affected communities and from the private sector, as well as assistance from adjacent cities and provinces. In the short term, disaster responders and national NGOs played an important role in the response and recovery effort, and in the longer term, Filipinos visited the area in a show of support, stimulating the tourist economy.

Build back better initiatives, as previously discussed, were seen as a success. In contrast, the government’s role in recovery was criticised – corruption, politics, poor decision-making, and unwise funding were cited as failures, and the government response was seen as slow. Only 23% of respondents thought that the state responded well, while 13% thought it responded badly and 63% were neutral. A lack of coordination between government and NGOs, led to a duplication of effort, which hindered recovery. Disaster tourism, promoted by international media exposure, a visit by the Pope, and huge marketing efforts, positively affected the economy. However, as is often the case after large-magnitude disasters, the Typhoon also brought about an influx of NGOs, described by some Filipinos as ‘a flood’, which was sometimes unhelpful.

Considerations for the Insurance Sector

On the role of insurance, 92% of respondents indicated that insurance accelerated recovery speed, with 12% suggesting that homes and business with coverage recovered more than one year faster. However, insurance penetration is very low in the Philippines. Of the US\$12 billion economic loss, only (7%) was insured. Property and life insurance is very rare in the Philippines, with premiums of just US\$1.2 billion in 2012, and there was a lack of awareness of insurance options. On a per capita basis, this works out at just US\$13, compared with US\$1,224 in the US.⁴³ At the time of the disaster the Philippines lacked a national pool to cover natural catastrophes. In 2017, the Government, with support of the World Bank and the UK government’s Department for International Development (DFID), launched a new catastrophe risk insurance programme for International Development, providing US\$206 typhoon cover. The Philippines has the highest micro insurance penetration in Asia and Oceania, with nearly 20 million properties and lives covered in 2014. This includes credit, life, accident, calamity, and funeral insurance. Life and non-life providers are associated with intermediary brokers, cooperatives, NGOs, and rural banks. By July 2014, eight months after the event, over 111,000 micro insurance claims, 90% of which were calamity claims, had been paid, amounting to US\$12 million with a flat benefit of US\$90 - 226.

In the aftermath of the storm, the National Regulatory Insurance Commission developed a plan for the speedy processing of insurance claims. This included the establishment of a Claims Action Centre (CAC) in Tacloban to serve as a one-stop shop for Haiyan victims; the assembly of a master list of policyholders in the affected area and enforcement of a premium payment moratorium of 90 days. To expedite claims processing, insurers used satellite images and crisis mapping for claims validation. Due to the shortage of goods and necessities, including food and water, if the policyholder or beneficiary agreed, payment was made in the form of goods. Critically, 27% of claims were paid within four weeks of the typhoon, and 60% within four months. As a result, micro insurance did make a difference in recovery, especially where other assistance was lacking. Generally, 50% went toward repairing homes and 50% into re-establishing livelihoods, although for many, their livelihood took priority over fixing the home.

92%

of respondents indicated that insurance accelerated recovery speed

7%

only 7% of the US\$12 Billion economic loss was insured



Section 6: Key Findings

While expectations for rapid recovery and rehabilitation were high, recovery from a disaster of the magnitude of Typhoon Haiyan was a tremendous challenge and 4-5 years for a return to near normal is typical of disasters of the scale of Haiyan. Our survey results suggest full recovery may take until 2020. A four-year time frame was estimated by the government's 'Reconstruction Assistance on Yolanda (RAY): Build-Back-Better' for recovery and reconstruction considering the disruption to economic functions, supply chains and logistics, and limited human capacity to manage disaster recovery. Further factors were the time needed for adequate and detailed planning, matching the flow of funding with viable recovery projects, and establishing the capacity to implement such projects.

Our survey was performed in mid-2018, nearly five years after Typhoon Haiyan, and so provides an indication of the overall speed and quality of recovery. Progress on rehousing displaced families was slow and it has taken until now, 7 years after the disaster, for housing to fully recover. In contrast, the economy recovered more quickly, and the industrial, agricultural, and service sectors resumed to nearly full productivity within 3-4 years.

All sectors, apart from housing, remained the same in terms of safety and amenity. In housing over two-thirds (68%) thought there had been an improvement, although housing had not fully recovered at the time of the survey 5 years after the disaster. In the other sectors 44-58% thought that there had been improvement. However, a significant minority thought the quality of recovered housing (16%) and infrastructure (17%) was worse or much worse. On the role of insurance, 92% of experts thought that insurance had speeded recovery, with 12% suggesting that homes and business with coverage recovered more than one year faster. However, it is important to note that insurance penetration is very low in the Philippines. Of the total economic loss, only 7% was insured.

Section 7: References

Bankoff, G. 2003. *Cultures of Disaster: Society and Natural Hazard in the Philippines*. Routledge. <https://doi.org/10.4324/9780203221891>.

Bravo, L., Roque, V. G., Brett, J., Dizon, R., & L'Azou, M. (2014). Epidemiology of dengue disease in the Philippines (2000–2011): a systematic literature review. *PLoS neglected tropical diseases*, 8(11), e3027.

Citrinot, L. 2017. 'Full Recovery for Eastern Visayas Tourism'. 14 January 2017. <http://asean.travel/2017/01/14/eastern-visayas-tourism-full-recovery/>.

City Gov. of Tacloban. 2018. 'City Profile | City of Tacloban'. Tacloban.Gov. 2018. <http://tacloban.gov.ph/about/city-profile/>.

Curato, N. 2018. 'Beyond the Spectacle: Slow-Moving Disasters in Post-Haiyan Philippines'. *Critical Asian Studies* 50 (1): 58–66. <https://doi.org/10.1080/14672715.2017.1407249>.

Dalisay, S. N. and T. De Guzman, M, T. 2016. 'Risk and Culture: The Case of Typhoon Haiyan in the Philippines'. *Disaster Prevention and Management: An International Journal* 25 (5): 701–14. <https://doi.org/10.1108/DPM-05-2016-0097>.

Davis, I, and Alexander, D. 2015. *Recovery from Disaster*. Routledge. <https://books.google.co.uk/>.

DSWD. 2014. 'DSWD and WFP Provide Cash Assistance to Yolanda Survivors'. 1 August 2014. <https://pantawid.dswd.gov.ph/index.php/component/content/article/1-latest-news/347-dswd-and-wfp-provide-cash-assistance-to-yolanda-survivors>.

———. 2018. 'Pantawid Pamilyang Pilipino Program'. 2018. <https://pantawid.dswd.gov.ph/>.

DSWD, IDMC, IOM, and SAS. 2014. 'The Evolving Picture of Displacement in the Wake of Typhoon Haiyan. An Evidence-Based Overview'. Government of the Philippines, Department of Social Welfare and Development; International Displacement Monitoring Centre; International Organization for Migration.

Faure Walker, J, and Alexander, D. 2014. 'The Post-Disaster Phase of Transitional Settlement: A Perspective from Typhoon Yolanda (Haiyan) in Eastern Philippines'. IRDR Special Report 2014-01. London: Institute for Risk and Disaster Reduction, University College London. <https://www.ucl.ac.uk/rdr/documents/resources-irdr-reports/irdr-special-report-2014-01>.

GFDRR. 2014. 'Recovery and Reconstruction Planning in the Aftermath of Typhoon Haiyan (Yolanda)'. World Bank, Washington DC, USA. <https://reliefweb.int/sites/reliefweb.int/files/resources/Recovery%20and%20Reconstruction%20Planning%20in%20the%20Aftermath%20of%20Typhoon%20Haiyan.compressed.pdf>.

Guha-Sapir, D, Behow, R, and Hoyois, Ph. 2018. 'EM-DAT: The CRED/OFDA International Disaster Database'. Brussels, Belgium: Université Catholique de Louvain. <http://www.emdat.be/>.

IFRC. 2015. 'Rising from Haiyan: Two Years after the Storm'. International Federation of Red Cross and Red Crescent Societies. <http://ifrc-media.org/interactive/rising-from-haiyan/>.

Insurance Information Institute. 2013. 'Typhoon Haiyan: The Insurance Perspective | Improving Public Understanding of Insurance'. 2013. <https://www.iii.org/insuranceindustryblog/typhoon-haiyan-the-insurance-perspective/>.

IOM. 2014. 'IOM Typhoon Haiyan (Yolanda) Response: Damage Assessment for Designated Evacuation Centres in Typhoon-Affected Areas'. International Organization for Migration. http://www.iom.int/files/live/sites/iom/files/Country/docs/IOM-Assessment-ECs-ESamar_2014-Apr.pdf.

Jagnarine-Azan, S. 2014. 'Tacloban - Philippines; Typhoon Haiyan (Yolanda); Damage Assessment Report'. <https://www.istructe.org/downloads/resources-centre/technical-topic-area/eefit/non-eefit-reports/tacloban-typhoon-yolanda-report-8-nov-2013.pdf>.

Khazai, B., Mahdavian, F., and Platt, S. 2018. 'Tourism Recovery Scorecard (TOURS) – Benchmarking and Monitoring Progress on Disaster Recovery in Tourism Destinations'. *International Journal of Disaster Risk Reduction* 27 (March): 75–84. <https://doi.org/10.1016/j.ijdrr.2017.09.039>.

Lagmay, A. M. F., Agaton, R. P., Bahala, M. A. C., Briones, J. B. L. T., Cabacaba, K. M. C., Caro, C. V. C., ... & Mungcal, M. T. F. (2015). Devastating storm surges of Typhoon Haiyan. *International journal of disaster risk reduction*, 11, 1-12.

Leelawat, N., Mateo, C. M. R., Gaspay, S. M., Suppasri, A., & Imamura, F. (2014). Filipinos' views on the disaster information for the 2013 Super Typhoon Haiyan in the Philippines. *Int J Sustain Future Hum Secur*, 2(2), 61-73. Matus, C. L. 2013. 'For Boholanos: After Super Quake, a Super Typhoon'. 10 November 2013. <http://newsinfo.inquirer.net/524245/for-boholanos-after-super-quake-a-super-typhoon>.

Milman, O. 2015. ‘Life in the Philippines: Preparing for the next Typhoon Haiyan’. The Guardian, 25 March 2015, sec. Environment. <http://www.theguardian.com/environment/2015/mar/25/life-in-the-philippines-preparing-for-the-next-typhoon-haiyan>.
NDRRMC. 2013. ‘Final Report Re Effects of Magnitude 7.2 Sagbayan, Bohol Earthquake’. http://ndrrmc.gov.ph/attachments/article/1330/FINAL_REPORT_re_Effects_of_Magnitude_7_2_Sagbayan_Bohol_Earthquake_15OCT-04NOV2013.pdf.

NEDA. 2013. ‘Reconstruction Assistance on Yolanda: Build Back Better’. National Economic and Development Agency.

Ong, J C. 2015. ‘Does Humanitarian Aid Mend Communities or Break Them?’ The Guardian, 27 March 2015, sec. Working in development. <http://www.theguardian.com/global-development-professionals-network/2015/mar/27/impact-communities-distribution-aid-typhoon-haiyan-philippines>.

Porteria, A. 2015. ‘Making Money Out of People’s Misery: Has Disaster Capitalism Taken Over Post-Haiyan Philippines?’ Philippine Sociological Review 63: 179–206.

Sherwood, A., Bradley, M., Rossi, L., Guiam, R. and Mellicker, B. 2015. ‘Resolving Post-Disaster Displacement: Insights from the Philippines after Typhoon Haiyan (Yolanda)’. The Brookings Institution & the International Organization for Migration (IOM). <https://www.brookings.edu/wp-content/uploads/2016/06/Resolving-PostDisaster-DisplacementInsights-from-the-Philippines-after-Typhoon-Haiyan-June-2015.pdf>.

Sidel, J. T. 2014. ‘The Philippines in 2013: Disappointment, Disgrace, Disaster’. Asian Survey 54 (1): 64–70. <https://doi.org/10.1525/as.2014.54.1.64>.

Soria, J. L. A., Switzer, A. D., Villanoy, C. L., Fritz, H. M., Bilgera, P. H. T., Cabrera, O. C., ... & Fernandez, I. Q. (2016). Repeat storm surge disasters of Typhoon Haiyan and its 1897 predecessor in the Philippines. *Bulletin of the American Meteorological Society*, 97(1), 31-48.

Swiderek, D, and Wipf, J. 2015. ‘Aiding the Disaster Recovery Process. The Effectiveness of Microinsurance Service Providers’ Response to Typhoon Haiyan’. The Microinsurance Network. https://microinsurancenetwork.org/sites/default/files/MIN_Typhoon%20Paper_WEB.pdf.

Torregoza, H. L. 2016. ‘Rehab Czar Shares Lessons of “Yolanda”’. Manila Bulletin News. 11 June 2016. <https://news.mb.com.ph/2016/11/06/rehab-czar-shares-lessons-of-yolanda>.

Transparency International. 2017. ‘Corruption Perceptions Index 2017’. Transparency International. https://www.transparency.org/news/feature/corruption_perceptions_index_2017.

UNISDR, ed. 2015. Global Assessment Report on Disaster Risk Reduction. United Nations Office for Disaster Risk Reduction (UNISDR). https://www.preventionweb.net/english/hyogo/gar/2015/en/gar-pdf/GAR2015_EN.pdf.

UNU-EHS. 2016. ‘World Risk Report’. United Nations University Institute for Environment and Human Security. https://reliefweb.int/sites/reliefweb.int/files/resources/WorldRiskReport2016_small.pdf.

Walch, C. 2018. ‘Evacuation Ahead of Natural Disasters: Evidence from Cyclone Phailin in India and Typhoon Haiyan in the Philippines’. *Geo: Geography and Environment* 5 (1). <https://doi.org/10.1002/geo2.51>.

World Bank. 2017. ‘Sovereign Climate and Disaster Risk Pooling: World Bank Technical Contribution to the G20’. http://www.bmz.de/de/zentrales_downloadarchiv/themen_und_schwerpunkte/klimaschutz/DFRI_G20.pdf.

———. 2018. ‘Philippines | Data’. 2018. <https://data.worldbank.org/country/philippines?view=chart>.

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