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Asian Disaster Preparedness Center

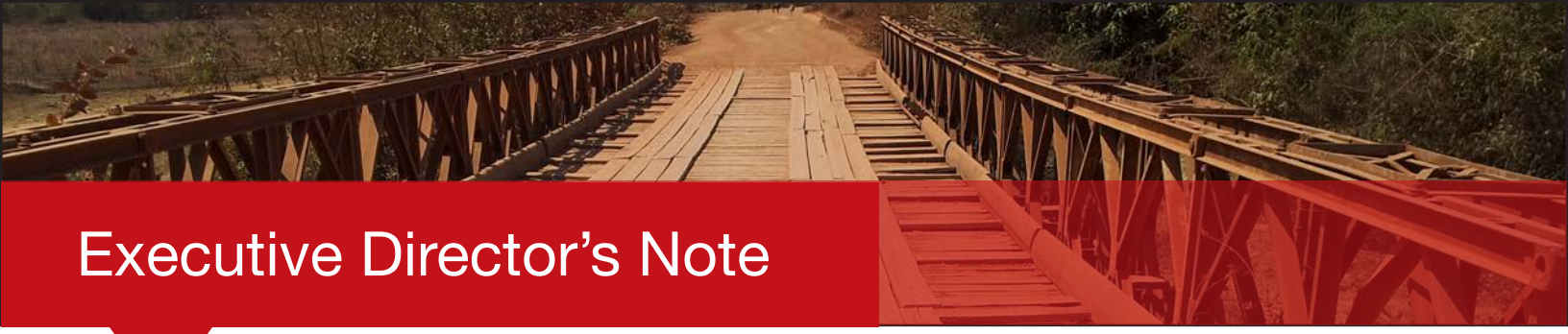
Volume 22 | 2015

Asian Disaster Management News

Disaster recovery

The governance, economics and social impacts

Building Resilience through Innovation and Partnerships



Executive Director's Note

Dear Readers,

We have witnessed great strides in countries and communities to reduce the risk of disasters. This has been achieved through mitigation measures such as hazard-resilient building codes and preparedness measures including contingency planning and early warning. But what happens when despite these actions, capacities are overwhelmed and when a disaster occurs? Are we ready to assess the social, economic, and environmental impacts to assist better and timely recovery? Are we ready for recovery?

Strengthening systems, capacities, and partnerships for post-disaster assessment and recovery planning before the next disaster is a key component of Asian Disaster Preparedness Center's mission. In particular over the last 15 years, we have undertaken a number of projects on post-disaster assessment and recovery, in partnership with governments and development partners. We continue to expand our experience and understanding, collaborating closely with our stakeholders, and providing technical assistance through the launch of our *Ready4Recovery* initiative.

In February of this year in Jakarta, Indonesia, it was my pleasure to participate with Helen Clark, Administrator of the United Nations Development Programme, in the launch event of the *Disaster Recovery Toolkit* by the Steering Committee of the Tsunami Global Lessons Learned Project. Developed in partnership with ADPC, the toolkit aims to provide a how-to guide on development, and implementing and managing complex post-disaster recovery programs. Please visit the ADPC website (www.adpc.net/tgllp/drt) to download the toolkit.

This edition of Asian Disaster Management News focuses on *Disaster recovery: the governance, economics, and social impacts*, and is released in the knowledge of the significant challenge that has beset the government and communities of Nepal in the aftermath of the earthquake on 25 April 2015. The publication has added relevance as recovery starts in Nepal, and the world is looking to the challenging task ahead to help rebuild the country, its economy and its heritage, and rehabilitate the Nepalese people. At a time when the world looks to the future of resilient development, I sincerely hope you will find the articles in this edition informative, interesting, and forward-looking.

Shane Wright
Executive Director

About us

Asian Disaster Management News is published by Asian Disaster Preparedness Center, to serve as a channel of communication and source of information for disaster risk management practitioners and development workers in Asia-Pacific.

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Our team

Editorial team:
Mr. Aslam Perwaiz
Mr. Gregory Pearn

Editor: Ms. Leila Puutio
Layout: Mr. Adam Yousri
Design: Mr. Paisit Amornwikaikul

Get involved

Interested in contributing stories to Asian Disaster Management News?

Contact the editorial team at adpc@adpc.net.

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Cover photo by ADPC: A woman observing the devastation caused by the earthquake in Nepal on 25 April 2015.

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Photo by Queensland Reconstruction Authority

Features

Country Spotlight

Getting ready for recovery in Asia

Stakeholders in risk management are placing an increasing emphasis on disaster recovery and reconstruction planning, to enable faster and effective socio-economic recovery.

On 25 April 2015, an earthquake with magnitude 7.8 hit Nepal near the capital city of Kathmandu. While it is too early to estimate the total damage and losses in economic and social terms, a full recovery of the nation and its people will take a toll on Nepal's economy and future growth projections. The Government of Nepal's commitment to rebuild a more resilient country would depend on the speed and efficiency to which government agencies, development partners and the Nepali communities are mobilized.

South and Southeast Asia have experienced the worst disasters in modern history in the last one decade. The Indian Ocean Tsunami and Earthquake in December 2004 killed more than 230,000 people, injuring thousands more in the region, as well as in parts of East Africa. Thousands of families were left homeless; buildings, roads, bridges and other physical infrastructures were completely destroyed; and the social and psychological effects are still felt by many today. Since the tsunami, a number of other large disasters have ravaged the region, including Kashmir Earthquake in 2005, Cyclone Nargis in Myanmar in 2008, Typhoon Ketsana in 2009, Pakistan Floods in 2010, Thailand Floods in 2011, and Typhoon Haiyan or Yolanda in the Philippines in 2013. The cost for severe human, material, economic, and environmental damages have been huge and the governments spent exorbitantly attempting to rebuild property and lives in these countries.

In the aftermath of these and other disasters, governments, regional bodies, and development partners increasingly understand that with better preparation of post-disaster responsibilities, arrangements, and procedures, recovery can take place both more quickly and effectively. In other words, stakeholders are placing increasing emphasis to be "ready for recovery."

What does it mean to be ready for recovery?

When a disaster occurs, the first priority is to save lives, treat the injured, provide access to basic services, and conduct urgent short-term repairs. These essential activities are conducted during the disaster relief phase. After this phase, many countries in the region have recognized the importance of conducting a post-disaster assessment of socio-economic and environmental effects within the disaster-affected area. The assessment estimates the physical

R4R

READY4RECOVERY

Key components of disaster recovery

With a timely and accurate assessment after a major disaster, countries are in a better position to plan and implement recovery and reconstruction projects and activities. Key components of recovery include:

- agreements on institutional arrangements,
- project planning,
- mobilizing and managing of financial resources,
- coordination and communication,
- monitoring and evaluation, and
- integrating recovery into longer-term sustainable development.

Rebuilding Nepal *In the coming months and years, Nepal will aim to build back better after the devastating earthquake on 25 April 2015.*


Photo by ADPC

Ready for Recovery *Participants of ADPC's high-level regional discussion forum on recovery in Bangkok in December 2014.*

damage and economic losses across development sectors as well as the related social impacts, ensuring that reconstruction and recovery needs are identified and analyzed.

In recent years, post-disaster needs assessments have been conducted after major disasters by many governments. These assessments have helped identify the areas with the greatest needs, assisted the prioritization of recovery and reconstruction activities, and served as the basis for additional resource mobilization from development partners. Crucially, through the assessment process, the means to 'build back better' for resilient recovery have become better understood. The Nepal Earthquake provides an opportunity to reconstruct with high seismic standards and modern equipment, but the challenge remains on the planning, coordination and the investment in a *build back better* -strategy.

Improving preparedness for recovery in hazard-prone countries: lessons learned

Particularly within the last fifteen years, Asian Disaster Preparedness Center has worked with national and local governments and partners in the Asian region to strengthen post-disaster systems. From these experiences, two components have emerged as essential. They include clear and understood operational systems, procedures, and institutional arrangements for post-disaster assessment and recovery planning, and building the technical and functional capacities of management and operational staff for post-disaster activities.

The two components imply a number of key considerations needed for effective support to countries to be ready for recovery. Over the years, ADPC has learned the following:

- While applying tried and tested international methodologies and lessons from other countries, post-disaster processes should build on and enhance existing government arrangements within the country context whenever possible. Only then can the processes be fit-for-purpose.
- It is important to consider the end-users of technical guidelines for post-disaster systems, who primarily include government officials from different sectors. Therefore, extensive consultations should ensure guidelines reflect the needs and existing work of the officials and the sectors that they represent,

International methodology for post-disaster needs assessment and recovery planning

The international methodology for post-disaster assessment and recovery planning first developed by the United Nations Economic Commission for Latin America and the Caribbean (UN-ECLAC) in 1972 has been utilized and refined after many disasters around the world.

In its current form, the agreed methodology by the United Nations, the World Bank, and the European Union was published in 2014. The methodology can be applied in most country contexts, but as a government-led process, requires adaptation to specific institutional arrangements, roles and responsibilities, as well as cross-sector capacity development programs.

Disaster Recovery Toolkit

After major disasters, learning from the lessons is essential to reduce the impacts of future disasters. After the Indian Ocean Tsunami in 2004, the Tsunami Global Lessons Learned Project in partnership with ADPC initiated the development of a Disaster Recovery Toolkit for practitioners responsible for implementing recovery projects in disaster-stricken areas.

Launched in 2014, the toolkit provides a how-to guide on developing, implementing and managing complex post-disaster recovery programs.

Read more about the toolkit on page 34.

Banda Aceh 2005 *Destroyed buildings, whether public or private, impact the lives of many.*

written in a way that is both understandable and accessible.

- Disasters are almost always local events. Therefore, while the national-level government and development partners may lead post-disaster policies and planning, the provincial and district (or equivalent) levels are the 'implementers' of assessment, reconstruction, and recovery. In other words, post-disaster systems must be designed in a way that is practical at the local level.
- For updated post-disaster systems to work, it is necessary that there is significant capacity to implement them after future disasters, especially among the primary end-users. Achieved through short training courses and broader capacity development, technical and functional capacities for post-disaster systems should be sufficiently developed among the end-users.
- Training programs and capacity development initiatives, grounded firmly on the country-specific systems, should be based on a long-term strategy. In many situations, disasters are infrequent events; maintaining a pool of trained end-users can facilitate training courses for other officials as well as faster mobilization of recovery efforts after disasters.

Creating an enabling environment through strengthened capacity

It is recognized that situations after major disasters are incredibly complex, with many pressing short- and long-term needs for recovery. However, having government post-disaster systems and capacities in place before a disaster, provides clarity, and helps prioritize and address multiple needs.

Moreover, while governments take the lead and primary responsibility after disasters, other stakeholders – such as the private sector, United Nations agencies, development banks, Red Cross and Red Crescent Societies, nongovernmental organizations, and others who have important roles to play – can benefit from clearer government post-disaster systems.

Strengthening government systems and capacities for post-disaster needs assessment and recovery planning can create an enabling environment for all stakeholders – governments and their partners – to help communities and nations recover after disasters. ■

Aslam Perwaiz is Head of ADPC's Disaster Risk Management Systems Department and part of its Ready4Recovery team, which has been working closely with governments and development partners in the region to strengthen post-disaster systems and capacities.

Comprehensive support to countries in preparing for recovery

Increasing the countries' capacity in post-disaster damage, loss and needs assessment and recovery planning is key in ADPC's efforts to build a safer Asia.

Since the devastating earthquake in Gujarat, India in 2001, ADPC has supported multiple countries' post-disaster assessment and recovery planning in Asia. Post-disaster assessment involves the timely and accurate estimation of damages, losses, impacts, and needs across different sectors such as transportation, health, and agriculture. The assessment feeds directly into recovery planning, which aims to re-establish basic public services to normalize the socio-economic conditions, as well as source capital investments for long-term reconstruction.

There is a growing international recognition that governments must take the full lead in assessment and recovery planning, with support from various development partners. Therefore, ADPC aims to build country and regional institutional arrangements and capacities to anticipate and prepare for post-disaster assessment and recovery, using internationally accepted methodologies, which are adapted to specific country requirements.

ADPC's technical assistance in post-disaster damage, loss and needs assessment and recovery planning forms a key component of its mission to reduce disaster and climate risk impacts on communities and countries in the Asia-Pacific region in collaboration with governments, development partners and key stakeholders.

ADPC's approach to post-disaster assessment and recovery

ADPC's approach to post-disaster assessment and recovery planning is guided by the following principles:

- The processes are country-specific and aim to high efficacy
- Guidelines are easy to understand and easily accessible
- Guidelines are practical at the sub-national levels
- Capacities are built based on country-specific processes
- Pools of trained officials are established and engaged in each country

Through its internal and external network of specialists, ADPC is ready to discuss countries' requirements and to engage in further technical assistance on post-disaster needs assessment and recovery planning.

For a range of ADPC's publications on post-disaster needs assessment and recovery planning, visit www.adpc.net/pdna. ■

ADPC's past projects and initiatives on post-disaster recovery	Years
Serving as a joint assessment team member for damage and loss assessment after the 2001 Gujarat Earthquake in India	2001
Conducting regional and national training and workshops on damage assessment and needs analysis in Asia	2001
Developing damage and loss assessment methodology and providing capacity-building support for the Gujarat State Disaster Management Authority, India	2004–2006
Providing capacity-building support for post-tsunami damage and loss estimation in affected countries	2005–2006
Conducting a regional study on the socio-economic impacts of the 2004 Indian Ocean Tsunami	2005–2006
Providing post-disaster recovery assistance to the Government of Myanmar with ASEAN in the aftermath of Cyclone Nargis	2008–2009
Serving as a joint assessment team member and providing technical assistance to adapt the post-disaster needs assessment methodology for the post-Ketsana recovery in Cambodia and Lao PDR	2009
Adapting post-disaster needs assessment and recovery planning methodology and delivering capacity-building support for the Government of Lao PDR	2009–2010
Establishing an Asian expert group on disaster recovery with members from government agencies, regional bodies, technical institutes, and NGOs	2010
Developing a regional handbook and toolkit for disaster recovery practitioners: government officials, UN agencies, and NGOs	2010–2012
Providing institutional and capacity-building support for sub-national post-disaster reconstruction activities in Khammouane province, Lao PDR	2012–2014
Strengthening capacities, tools and processes at national and sub-national levels to hasten the recovery process following disaster events in Myanmar, Philippines, and Vietnam	2013–2015
Developing post-disaster needs assessment and recovery planning methodology and delivering capacity-building support for the Government of India	2014–2015

Human recovery needs assessment: Envisioning recovery through the survivor's lens

During the past years, the disaster risk reduction community has put a lot of efforts into ensuring that the needs of survivors are addressed as a central part in post-disaster needs assessments.

To a layperson, it seems obvious that a government-led and humanitarian sector -supported post-disaster recovery needs assessment would represent the priority recovery needs of survivors. However, that has not been common practice. Traditionally national recovery assessments relied heavily on the quantitative approach of the Damage and Loss Assessment (DaLA) methodology[1], which used secondary datasets on physical damage and economic losses to provide a macro picture of reconstruction and rehabilitation needs. The findings were primarily used to secure national and international financing for recovery.

Although suited to its purpose, such assessments did not cover the perceptions of many survivors on the existing and emerging recovery needs resulting from the 'human' impact of the disaster. These can include for example livelihood needs of 'hidden' workers in the informal sectors of the economy, and needs of children forced into child labor and exploitation after losing family. They also did not cover the needs to i) operationalize recovery through improved governance systems; ii) develop services to 'restart' not just 'rebuild' schools, hospitals and markets and; iii) make recovery resilient through risk reduction and capacity development measures. This incomplete picture of recovery needs and capacities led to inadequate recovery planning, which consequently resulted in gaps in recovery operations and missed opportunities in building resilience.

The human impact *Investing in human recovery needs assesment is a crucial part of disaster recovery.*

The 'human' element in assessments

In an effort to fill this gap, humanitarian agencies in the early 2000s developed tools and tested several human recovery needs assessments (HRNA). 'Human' was interpreted differently by different stakeholders, covering some or all of the following:

a. Amplifying the participation of 'humans' or disaster survivors in the assessment. For example, the West Sumatra Earthquake HRNA (2009) had a sample size of 600 affected households and other local stakeholders, and during the Bosnia and Herzegovina Floods assessment (2014) multiple field visits were conducted to consult local stakeholders in 26 municipalities;

b. Using participatory methodologies to gather primary data from demographic groups like the elderly and migrants. For example, community consultations after the Sri Lanka Tsunami (2005), Village Tract Assessments following Cyclone Nargis in Myanmar (2008), and household surveys, focus group discussions and key informant interviews during the West Sumatra HRNA (2009);

c. Expanding the scope of inquiry from damage and loss to impact on human development such as using quantitative analysis of pre- and post-disaster development trajectories, and human development indicators like the Millennium Development Goals (MDGs) as benchmarks. For example, the Monsoon Flood Assessment in Pakistan (2010) used the MDGs as benchmarks to understand the impact of the floods on the development context of the survivors; and

d. Broadening the lens from 'quantitative facts' to 'qualitative perceptions' of survivors that have helped identify emerging risks. For example, the West Sumatra Earthquake HRNA (2009) unearthed social tensions related to water sources, which had the potential to undermine social cohesion and create conflict during recovery and the potential environmental impacts of increased use of forest firewood as an energy alternative by survivors.

Where used, the HRNAs have helped influence recovery frameworks to address the needs of vulnerable survivors. For example the Montenegro Flood Post-Disaster Needs Assessment (PDNA) (2010) identified the needs of the marginalized Roma migrants and influenced the development of risk reduction focused recovery programs for them. HRNAs have also influenced initiatives for monitoring recovery progress and identifying emerging needs later during recovery. For example, the social impact monitoring (SIM) exercises during post-Nargis recovery operations in Myanmar helped identify needs for debt reduction amongst all occupational groups and psychosocial support for men experiencing delayed grieving after losing family.

Evolution of the human recovery needs assessment approach

The HRNA approach has taken several forms in the last decade, ranging from pilot exercises and tools to now being formally integrated in the post-disaster needs assessment methodology[2]. The 2013 version of the PDNA combines the DaLA and the HRNA approach. The methodology now includes new 'human'-oriented sectors like culture, disaster risk reduction, governance and community infrastructure. The scope of previous sectors has also been expanded to reflect human concerns, for example the chapter on *Employment, Livelihood and Social Protection.* Additionally, it is recommended that at least one expert with participatory rapid appraisal skills is involved in the assessment team to identify needs of local stakeholders, especially survivors.

Challenges in operationalizing human recovery needs assessment

Despite this encouraging progress, the HRNA approach remains a work in progress, facing many challenges in its use as a part of recovery assessments in general and the PDNA process in particular. The approach faces both teething troubles and some deep-rooted humanitarian sector challenges around recovery. These include lack of i) skilled and trained assessors at the national and international level; ii) clear guidelines and tools for assessors; iii) dedicated resources by agencies to finance participation of assessors on mission; iv) limited time for use of participatory tools and to access the most vulnerable survivors; v) the relief workload at the time of recovery assessment and; vi) conceptual barriers in harmonizing the DaLA and HRNA datasets and analysis.

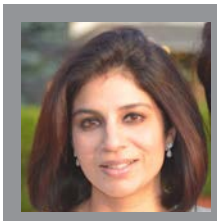
Supporting human recovery needs assessment for resilient recovery

The HRNA's value lays in its potential to make recovery a survivor-goal driven process. Its influence on recovery planning can significantly help build the risk reduction and resilience capacity of the area. Therefore the HRNA approach must be invested in, both within and beyond the framework of a formal PDNA. This may involve stronger advocacy and awareness for HRNA within the humanitarian, development and donor communities; increased technical capacity for HRNA; strengthened pre-disaster preparedness for HRNA; dedicated donor funds for mobilizing HRNA experts and; policy changes within humanitarian and development agencies to better resource HRNAs through funds and personnel. It will also be critical to develop synergies between the DaLA and HRNA tools so that they are better integrated in assessment processes and together provide a clearer picture of recovery needs and capacities. ■

References:

1. The DaLA methodology was developed by the UN Economic Commission for Latin America and the Caribbean in 1972. It primarily uses national accounts and statistics as baseline data to assess disaster damage and loss.

2. The PDNA process was initiated in 2008 by the European Union, United Nations and the World Bank to collaborate and develop a common approach to recovery needs assessments and planning. The methodology involves compilation of one consolidated assessment report, that helps develop a comprehensive recovery framework, which is used to guide recovery programs and international development assistance.



Shivani Khanna is a development and disaster risk reduction practitioner with over 13 years of experience in the areas of community participation, capacity development, strategy, program and advocacy design as well as action reviews and evaluations.

Stephen Webster is a team, organization and community development consultant with 30 years of experience in disaster management. In addition to his work in recovery and risk reduction he has extensive experience in response coordination.

Photo by tomgigabite / Shutterstock.com

Evolution of HRNA *The human recovery needs assessment (HRNA) approach has taken several forms in the last decade, ranging from pilot exercises and tools to now being formally integrated in the post-disaster needs assessment methodology.*

ESTIMATION OF DISASTER-INDUCED LOSSES TO DEFINE POST-DISASTER RECOVERY REQUIREMENTS

Defining the post-disaster financial requirements for recovery is a task that disaster-stricken countries must face often, especially in the case of developing countries. Failure to conduct such estimations on a sound and scientific basis prevents the affected society and economy from overcoming the negative impact of the disaster.

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POST-DISASTER NEEDS ASSESSMENTS HAVE BEEN CARRIED OUT on a systematic basis for the past forty years, making use of an evidence-based, quantitative methodology that enables a sequential, quantitative estimation of i) the effects and the impact of the disaster at different levels of aggregation, including the macro-economic, macro-social, sectorial and household levels; and ii) the financial requirements to achieve recovery of at least pre-disaster levels of development and quality of life. In more recent times, the design of a recovery framework is being advocated that would provide a systematic manner to define the return to normalcy.

Disaster effects are normally of two types, including destruction of physical, durable assets and the disruption of the production and access to goods and services. The destruction of assets – often designated as "damage" – is valued at the cost of replacement of such assets, assuming they will be rebuilt using the same characteristics they had at the time of the disaster. The changes in flows of the production of goods and services caused by the disaster include the value of the goods that will not be produced and the possible higher costs of production arising after the disaster. Costs are expressed in current monetary values.

The impact of the disaster refers to the consequences of disaster effects. At the macro-economic level, impact may cause a slowdown of overall economic activity, disruptions of the balance of trade and payment, deterioration of the fiscal position, and possible increases in inflation. At the macro-social level, impact may refer to delays in achieving development goals. At the personal or household level, impact may include a decline in the quality of life of the population, involving *inter alia* losses in employment and income, increases in costs of living, losing or having to pay more for accessing basic services – such as education, health, transport, electricity, water and sanitation – and possible increases in poverty. Other, equally important impacts may occur in the environment – where both built and natural assets and services may sustain damage and losses – and in the very important issue of governance, thus diminishing further the limited development capacities of governments and communities.

Once disaster effects and impacts are properly assessed and valued, a basis is available to make an identification of the needs and an estimation of the financial requirements to bring back normalcy levels to the affected areas, sectors, population and the economy. The financial requirements are estimated as the cost of providing the working capital needed to recover the levels of production of goods; access to and supply of basic services to the population; as well as personal or household income, which is usually a fraction of the value of estimated losses. Furthermore, the financial requirements for reconstruction usually involve the cost of replacing destroyed goods at slightly higher prices to introduce risk-reduction features.

Holistic post-disaster recovery needs assessment

The definition of *recovery needs* requires that disaster effects and impacts be estimated for all affected sectors of social and economic activity. This is so because of the inter-relations between sectors of activity, some of which are connected through production chains (e.g., agriculture-industry-trade). Leaving some sectors out of the assessment may cause that no full recovery is achieved or that recovery is delayed beyond control, thus causing a longer period of suffering to the affected individuals and households.

Very often, post-disaster needs assessments conducted in developing countries cover only a selected number of sectors of social and economic activity, concentrating often on those sectors where the poorest population is involved and leaving out other activities that usually fall within the domain of the private sector. This is apparently due to the assumption that the state is to assist only in the recovery of the most vulnerable population, since all others – especially those in the private business sectors – are assumed to have insurance coverage that would solve their recovery requirements. The latter is not a valid assumption, since experience shows that insurance penetration in developing countries is quite limited and often many private businesses do not have adequate coverage on assets and production. Furthermore, leaving some of the sectors of activity out of the recovery program will surely have detrimental effects on the sectors that are covered.

Including all sectors of social and economic activity in post-disaster needs assessments does not imply that the affected government should finance recovery for all affected stakeholders. Instead, once the total needs for recovery are identified and quantified, the government would finance those needs within its purview and also interact with the private and developing banking sector to ensure that the required credit lines, under soft-term conditions on both interest and payment period (as required under post-disaster conditions), are made available to finance private-sector working capital, reschedule disaster-induced non-performing loans, and promote disaster-resilient reconstruction. This is essential to ensure that recovery is achieved by all disaster-affected sectors of social and economic activity and by all affected persons, households and enterprises.

All-encompassing recovery

It can be said that recovery is not achieved until all activities – whether social, economic or environmental – have been brought back to their normal, pre-disaster levels. Furthermore, if certain sectors of activity are lagging behind in achieving recovery, they will have a negative bearing on the recovery of other sectors of activity, since the society and economy are closely interlinked. Therefore, one either achieves recovery or not, and there are no intermediate stages of recovery. Some authors refer to early (3–18 months), medium-term (up to 5 years) and long-term (5–10 years) recovery, but this is a misconception; they are really describing the components or activities of recovery to be carried out in the short-, medium- and long-term after a disaster. Furthermore, assigning specific time frames to some recovery activities is not always valid, since each disaster or type of disaster – depending on their origin, intensity and extent – brings about different needs for recovery.

On the basis of the experience acquired in the past 40 years, it can be stated that post-disaster recovery activities can be grouped around the following themes: i) recovery of production levels in the productive sectors of agriculture, livestock, fishery, forestry, industry, trade or commerce, mining, and tourism; ii) recovery of supply and access to basic services of education, health, housing, transport and communications, water supply and sanitation, and electricity; iii) recovery of personal or household income; and iv) recovery of destroyed physical assets or reconstruction.

Moreover, recovery is not reached when temporary facilities are provided to achieve the four types of recovery outlined above, but only when pre-disaster levels of production, services, personal income and full reconstruction of destroyed assets across the board (i.e., in all affected sectors of social and economic activity) are acheived. In that sense, for example, recovery is reached in the transport sector when destroyed bridges and road sections have been rebuilt and when the vehicular stock has been replaced, and not when temporary bridges are set up to enable minimum traffic over destroyed bridges. Recovery in water supply is achieved when the destroyed water sources or pipelines are rebuilt and direct access is assured to all households, and not when water is distributed to users using tanker trucks. Recovery in education is achieved when destroyed schools have been rebuilt and destroyed education materials have been acquired, and not when temporary schools are set up in tents or in rented, alternative premises.

The time to achieve recovery normally varies from sector to sector, depending on the degree of disaster effects and impact sustained, and overall recovery would be reached only when all affected sectors and persons have overcome the effects and impact of the disaster. Quantitative indicators should be used to define if and when recovery has been achieved.

Equally important is to realize that the time required for recovery after each disaster will vary depending on their intensity, geographical coverage, and the extent of the sectors affected. There are no valid rules-of-thumb to define such timeframe.

The appropriate indicators

This paper proposes that multiple quantitative indicators for recovery be adopted. There does not seem to be any problem in using indicators on production levels of goods and services in all sectors of social and economic activity, as well as in using macro-economic and macro-social indicators of development. But in addition to those, there is a need for a composite set of indicators describing *quality of life* – that can be measured during the limited timeframe over which a post-disaster needs assessment is done.

A composite indicator of disaster impact on quality of life for disaster-affected people or households is proposed herewith that would enable a quantitative measure of disaster impact at personal or household levels. The indicator would utilize data that is easily obtainable during post-disaster assessments, and which will later on provide a way to measure progress on recovery. This

Time to recover *The time to achieve recovery normally varies from sector to sector, depending on the degree of disaster effects and impact sustained. Overall recovery can be reached only when all affected sectors and persons have overcome the effects and impact of the disaster.*

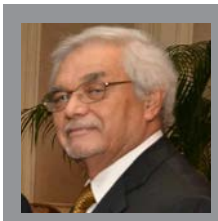
quality of life indicator includes the weighting of pre- and post-disaster levels of a few, quantitative sectorial indexes, such as:

- Housing deficit
- Number of education days provided to students in the year
- Number of absence-from-work days due to injury, disease, psychosocial trauma
- Personal or household income
- Number of persons below poverty level
- Direct water supply connection at home
- Direct connection to electricity grid

In addition, for cases of slow-evolving disasters such as drought or health crises, the following additional indexes may be included:

- Number of persons facing food insecurity
- Number of persons facing malnutrition

Adopting such a composite indicator would provide a quantitative measure of disaster impact and the use of such indicator would make it possible to measure progress in achieving recovery after the disaster. ■



Roberto Jovel has over 40 years of experience in disaster impact assessment, notably co-directing development of the methodology for disaster damage and loss assessment (DaLA). He was instrumental in expanding the methodology to include the systematic, quantitative estimation of recovery and reconstruction needs as well as the quantitative estimation of disaster impact at the personal and household levels. Jovel also contributed to the development of the new PDNA methodology by the EU-UN-WB. He is currently the Team Leader for defining a standard post-disaster needs assessment methodology in India, implemented by ADPC.

Q&A

with Dr. Apurva Sanghi

Written by ADPC

What is the World Bank's approach to post-disaster assessment and recovery?

Assisting countries with post-disaster assessments is critical to our agenda, and its twin goals of ending poverty and boosting shared prosperity. Because disasters hurt the poor and vulnerable the most, it's important to take a proactive approach.

Following a disaster, the World Bank staff within the country office begin formulating a plan of action in order to assist the country's government and its people. A damage, loss, and needs assessment or a post-disaster needs assessment may be considered. Both ultimately attempt to provide guidance to the government and international community on the country's short-, medium- and long-term recovery priorities.

Your book *Natural Hazards, UnNatural Disasters* contained a memorandum to a 'Concerned Finance Minister.' How do you see the ministers fulfilling it?

I think that there is much more awareness than before among finance and planning ministers on the issue of reducing ex-ante disaster risks – at least for major disasters such as the tragic tsunami in Japan or the earthquake in Haiti, which have a direct, immediate, and significant impact on the budget. But we still have some way to go when it comes to "uncharismatic disasters" – events that do not generate media attention but can have long-lasting adverse effects for those affected.

Planning ahead of time for sustainable recovery and reconstruction is a key challenge for governments. How do you see economic considerations would help effective prevention?

I would say that economic considerations are important but not the only ones. For example, the disaster community still, mistakenly in my opinion, feels that if we can demonstrate to governments that the benefits exceed the costs, that would suffice. But as we show in our book, economic considerations, first and foremost, are very site- and hazard-specific: The cost–benefit ratio of flood prevention in New Orleans is going to be very different from that of earthquakes in Istanbul. Secondly, even when economic considerations are favorable (i.e., benefits exceed costs), we don't observe people take on more prevention. And that is the bigger question as we discuss in our book.

One part of that puzzle is that preventive actions by people like you and me depend on the public services that governments provide, and the services are limited in many developing countries. The reason is not that people are ignorant or fatalistic.

Would you agree it is sometimes difficult to assess both the economic and social impacts of a disaster? What is the best approach?

There are two major difficulties. The first one is measuring damage twice over: double counting by adding stocks and flows. For example, it is wrong to add measures of the lost social benefits from damage to a public hospital – due to reduced access to care; and the cost of reconstruction – as a crude proxy for the lost value of the asset – as that would double count the output losses.

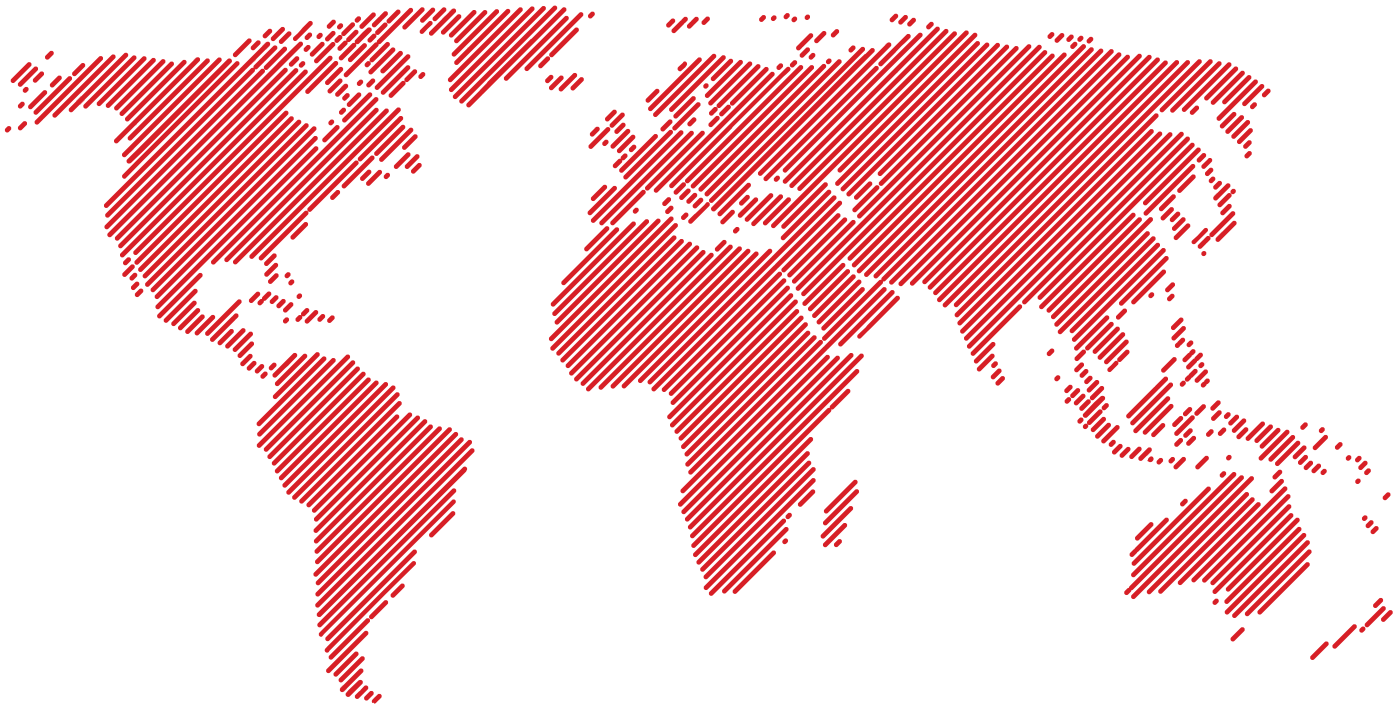
The second difficulty is that biases in measurement can also go the other way, leading to underestimates of damages. Although fatalities are counted, damage estimates ignore the value of lives lost because of the difficult conceptual and ethical issues of valuing lives – an issue that we discuss in our book. Another undercounting arises from destruction of "the commons" – environmental buffers, forests – which are rarely included because they are difficult to value and have no well-defined claimants. What is valuable is not always valued.

In September 2014, the World Bank, the United Nations, and the European Union launched joint publications on post-disaster needs assessment and disaster recovery frameworks. What are the next steps of this partnership?

The key next steps include ensuring that the methodology behind these assessments leads to more resilient and inclusive recovery and reconstruction processes. We also focus on implementing the recovery framework methodology, improving financial management, and ensuring monitoring and evaluation. In addition, we will provide technical assistance for post-disaster recovery and reconstruction planning, and help countries improve their disaster recovery strategies and governmental institutions in order to manage recovery before a disaster strikes. ■

Dr. Apurva Sanghi is the World Bank's Lead Economist for Kenya, Rwanda and Eritrea. He was the team leader for the World Bank's and the United Nations' joint flagship project on the economics of disasters, which produced the internationally-acclaimed book titled 'Natural hazards, unnatural disasters: the economics of effective prevention.' Dr. Sanghi is also a lead author for the Intergovernmental Panel on Climate Change's Special Report on Extreme Events, and has worked in the private sector, think-tanks and academia.

Country spotlight



Around the world, disasters impact countries differently. This section is dedicated to sharing the unique experiences and approaches countries have taken towards disaster recovery.

Australia

Building it back better

Following the catastrophic flooding across Queensland in late December 2010 and January 2011, the state established the Queensland Reconstruction Authority that now manages its natural disaster relief and recovery arrangements.

Photo by Queensland Reconstruction Authority

The flooding in Queensland in 2010–2011 caused dozens of casualties, the evacuation of more than 70 towns and in excess of USD15 billion in damages and losses. Integral parts of community infrastructure were washed away and Queensland's USD20 billion coal export industry slowed to a near halt. The flooding was one of Australia's largest and most expensive natural disasters[1].

The Queensland Reconstruction Authority now manages the state's USD13.3 billion Natural Disaster Relief and Recovery Arrangements, which cover the events spanning from 2007 to 2014.

Increasing resilience to reduce future expenditure

Since 2005, when the World Conference on Disaster Reduction adopted the Hyogo Framework for Action 2005–2015, there has been an international acknowledgement that efforts to reduce disaster risks must be systematically integrated into government policies, plans and programs. The Queensland Betterment Fund initiated by the Queensland Government was announced in February 2013 following the Tropical Cyclone Oswald, a disaster that caused USD2.4 billion in damage to many public assets that had been repeatedly impacted.

The intent of the Betterment Fund is to increase the resilience of Queensland's infrastructure assets to natural disasters, while reducing future expenditure on asset restoration, reducing incidents, injuries and fatalities during and after natural disasters, improving asset utility during and after natural disasters, and increasing overall community resilience. Building back better in order to reduce risk to communities and accelerate recovery after disasters is recognized as a key element in the post-disaster reconstruction process.

Establishing a *Framework for Betterment*

The Queensland Reconstruction Fund developed a Framework for Betterment giving consideration to the financial implications of betterment and addressing circumstances including evidence of prior and repeated damage, loss of utility, and impact on economic or social factors in the community.

The framework significantly streamlined the process of eligibility, submission and assessment criteria for funding and distribution of betterment funds, which aligned with existing approval processes. This allowed for the local government to factor betterment works into their reconstruction schedule and begin works as soon as possible, mitigating the impact of future disaster on their local communities.

More than 230 projects will be delivered under the betterment fund including enhancements to water supply infrastructure, roads, bridges and drainage systems. The estimated total costs are USD170 million and the framework has already proven itself with a number of completed projects withstanding subsequent events including the Tropical Cyclone Ita in 2014.

The Queensland experience has allowed for communities to be closely monitored throughout the phases of disaster recovery during multiple events in a relatively short period of time. The Framework for Betterment that was developed in response to repeated damage to essential infrastructure made resilience and disaster risk reduction a priority for the state and empowered local governments to build back better to reduce future economic and social risk from natural disasters. ■

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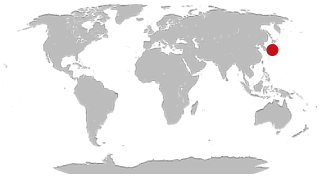
1. The World Bank Report on Queensland's Reconstruction, June 2011.

Frankie Carroll is the Chief Executive Officer of the Queensland Reconstruction Authority. Prior to his appointment as CEO in 2014, he held the position of Deputy CEO and Chief Financial Officer since the Authority's inception in 2011.



Japan

Tohoku recovery

In the fourth year after the Great East Japan Earthquake and Tsunami, on-the-ground situations are rapidly changing, writes Prof. Rajib Shaw.

Network-help *The new learning of the Tohoku disaster was the value of network-help, which links the people, government, NGOs, academia, and the private sector, among others.*

In most parts of Iwate and Miyagi prefectures, attempts are being made to transfer people from temporary housing to reconstruction housing. New communities are being formed, and a number of local community-based organizations play important roles.

In the case of Fukushima prefecture, the situation is more complex. The evacuees come from restricted areas and they need to live in other cities, possibly permanently or for a longer period of 30 to 40 years. Thus, a different social process is required in these areas.

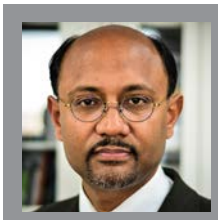
In this context, our continued research in some parts of the affected regions have highlighted four specific learning points:

1. The disaster took place during a transition time: The disaster hit the country in a time when the political and economic situation was not that stable, and caused delay in key decision-making, including the formation of a reconstruction agency and defining its roles and resources. Two years after the disaster, with a stable government in the center, decisions became faster, and the economic incentives and revitalization packages became more attractive. Coincidentally, the Great Hanshin Awaji Earthquake of 1995 also happened in a similar situation.

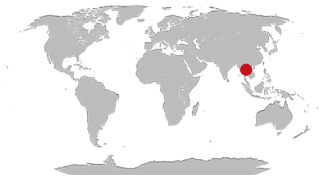
2. Social transformation: The disaster occurred in the new information era, with evolving social media usage. This significantly helped to mobilize youth volunteers during the post-disaster relief operations and also enhanced the sharing of local information globally. However, in some cases this also created panic due to inaccuracy of the disseminated information and problems regarding the reliability of the sources. This was especially the case in the aftermath of the nuclear meltdown. One key lesson learned is to use and disseminate information transparently with high reliability.

3. Redefining resilience: In spite of the devastating effects of the disaster, the affected areas did not see any riots, looting or misconducts. People showed their resilience through helping each other and sacrificing one's own needs for the collective requirements. Showing patience to the slow recovery process in some cases as well as expressing gratitude for external help were other important features. The concept of resilience was redefined through peoples' strength.

4. Connectivity: After the experiences from the post-Kobe Earthquake situation, Japan used to consider three types of help: self-help, mutual-help and public-help. The new learning of the Tohoku disaster was the value of network-help or N-help, which links the people, government, NGOs, academia, and the private sector, among others. The key word in the aftermath of the disaster was *connectivity* at different levels, which enhanced the recovery process. ■



Professor Rajib Shaw serves at the Graduate School of Global Environmental Studies in Kyoto University, and has been conducting research on the Tohoku recovery.



Lao PDR

Protecting public investments in Lao PDR

Strengthened recovery planning systems are essential for resilient development, writes Dr. Khamlien Pholsena.

In recent years, our country has continued to enjoy rapid development. Being strategically located in the center of the ASEAN Sub-Region, the Lao Government has set as its goal in the next National Socio-Economic Development Plan 2016–2020 to ensure political stability, peace, and social order and continue pursuing wide and steady poverty reduction. The country also aims to achieve the graduation criteria from the Least Developed Country status by 2020 by promoting steady, sound and sustainable growth, enhancing development based on the national potential and comparative advantage, and proactively participating in regional and global integration.

Lao PDR has experienced consistent GDP growth of 8–9 percent. Similarly, many health and education indicators show continued social development, which benefits our country's people. The government's public investments and services are key drivers of this progress. However, the constant risk of natural disasters continues to threaten this social and economic development.

Focus on quick recovery from disasters

Lao PDR is regularly exposed to floods, typhoons, and drought. Floods in 2008 affected about 204,000 people and damaged an estimated 50,000 hectares of arable land, while in 2009 Typhoon Ketsana caused economic losses worth about USD58 million. Private property, public investments and local infrastructure were seriously affected. These experiences brought to our attention not only how to increase disaster preparedness and prevention measures, but also how to ensure that the people and economy recover quickly after future disasters.

To address the need, the Ministry of Planning and Investment started a process to define a national system and procedures for post-disaster needs assessment and recovery planning. Eleven other sector ministries and government agencies were engaged in the process to develop the *Handbook for Post-Disaster Recovery and Reconstruction Planning in Lao PDR*, which is an adaptation of the international methodology for post-disaster needs assessment and recovery. The handbook has since been used for training government officials and improving procedures at provincial and district levels. The Ministry of Planning and Investment continues to work with its partners on post-disaster recovery. At the same time, the ministry works to ensure new public investments incorporate disaster and climate risk management.

A success story: Khammouane province

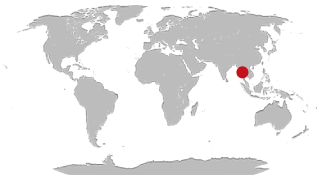
A provincial good practice on post-disaster recovery can be drawn from Khammouane province's response to the flooding caused by Typhoon Nokten in 2011, which resulted in severe damage and losses to basic infrastructure, especially to productive areas, the irrigation system, roads and bridges, hospitals and schools.

Photo by ADPC

Hydrometeorological hazards *Lao PDR is regularly exposed to floods, typhoons, and drought.*

In 2013 and 2014, led by the Provincial Department of Planning and Investment and under the Khammouane Development Project, the provincial administration of Khammouane province and districts enhanced their capacities in post-disaster reconstruction relating to damage and loss assessment, institutional and financial arrangements, disaster-resilient investments, and project management. With ADPC's technical support in institutional development and capacity building, Khammouane province has greatly strengthened its abilities for effective post-disaster activities. ■

Dr. Khamlien Pholsena serves as Vice-Minister at the Ministry of Planning and Investment, Lao People's Democratic Republic.



Myanmar

Enhancing early recovery in Myanmar and the ASEAN region

Opening up its economy, Myanmar is "set to become one of the next rising stars in Asia." The government has embarked on reforms focused on market-oriented inclusive growth and bottom-up decentralized planning. However, natural hazards threaten these developments.

Myanmar is prone to multiple hazards, like our neighboring countries. Cyclones, floods, and fires are among the most devastating and frequent ones. Recognizing this, Myanmar has developed a national framework to reduce disaster risk and to improve recovery after future disasters. The National Disaster Preparedness Central Committee, under the Vice President, is the 37-member apex body for disaster management. The Union Minister of the Ministry of Social Welfare, Relief and Resettlement is the chairman of the National Disaster Preparedness Management Working Committee.

The Natural Disaster Management Law of Myanmar was ratified in July 2013 to implement disaster risk reduction measures based on a systematic and smart approach. Rules and regulations for disaster management are being drafted in cooperation with the Myanmar Disaster Risk Reduction Working Group, and the Myanmar Action Plan on Disaster Risk Reduction was developed with technical support from ADPC.

In line with the institutional arrangements, the government, United Nations agencies, international and national nongovernmental organizations, and civil society organizations are working on multiple initiatives to reduce disaster risk in Myanmar – from the highest authority to the grassroots level. The activities encompass the full disaster management cycle including mitigation, preparedness, response, and recovery, or otherwise: reduction, readiness, response and recovery (4Rs). Learning from the Cyclone Nargis in 2008 and more recent disasters, the government is now upgrading systems and capacities for post-disaster needs assessment and recovery planning across all related ministries.

Developing the ASEAN Disaster Recovery Planning Guidelines

Myanmar serves as a co-chair of the ASEAN Committee on Disaster Management (ACDM) Working Group on Recovery, and is also developing the ASEAN Recovery Planning Guidelines that will be finalized in 2015. Recovery is an important component under the disaster management cycle: through disaster-resilient recovery, we can avoid the recurrence of the disasters in the affected areas.

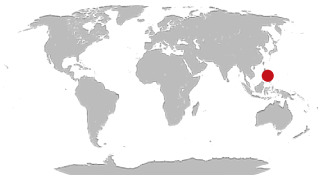
In the first meeting of the ACDM Working Group on Recovery in August 2013, Indonesia agreed to lead the development of the damage and loss assessment while Myanmar agreed to lead the development of recovery guidelines. The second meeting of the working group along with a recovery planning workshop were conducted in the ancient capital of Myanmar, Bagan, in November 2013. During the workshop, the member states shared their experiences from recovery, and we decided to develop regional recovery guidelines in collaboration with the United Nations Development Programme.

Securing public investments *Myanmar is exposed to multiple natural hazards which threaten the country's development.*

In 2014, we hosted the consultation workshop on the ASEAN Guidelines on Recovery Planning back-to-back with the third meeting of the ACDM Working Group on Recovery at Inn Le Lake in Shan State to discuss the establishment of a systematic mechanism to develop an ASEAN recovery plan. In February 2015, we conducted the first meeting of the focal points for the ASEAN Guidelines on Recovery Planning with the objective to review and provide feedback on the draft proposal and annotate the outlines for the ASEAN Recovery Guidelines.

The Recovery Guidelines will provide all ASEAN member states a common reference. Furthermore, we believe that regular workshops and meetings among the ASEAN countries will enhance the vision of one region – one recovery to build disaster-resilient nations and safer communities throughout the ASEAN region. ■

U Soe Aung is Director-General of the Relief and Resettlement Department of the Ministry of Social Welfare, Relief and Resettlement, the Republic of the Union of Myanmar.



Philippines

Recovery and reconstruction after Typhoon Yolanda

The way forward since the devastating Typhoon Yolanda (Haiyan) has not been easy for the Philippines. In 2013, the country was ravaged by a total of 25 weather disturbances – five more than in an average year.

More notable ones of these weather events include the tropical storm Auring and tropical depression Bising in January 2013, and Typhoon Santi (Nari) in October, which caused flashfloods and mudslides, killing 15 people and affecting over a million through damages to infrastructure and agriculture in five regions. Having hardly recovered from these disasters, a strong earthquake hit Bohol in October, killing 220 and affecting more than 3.2 million inhabitants.

Then came the shocker: The strongest typhoon that has ever made a landfall – Typhoon Yolanda – hit the Philippines. With a maximum wind speed of 235 kph and gustiness of 275 kph, Yolanda lingered in the Philippines for about four days in November 2013.

Managing the recovery activities

Realizing the vast devastation caused by Yolanda, the President of the Philippines appointed the Office of the Presidential Assistant for Rehabilitation and Recovery to unify and harmonize the efforts of the government and other agencies involved in the rehabilitation and recovery – without interfering in the specific mandates of the departments, agencies and instrumentalities.

The Presidential Assistant for Rehabilitation and Recovery, who holds a cabinet rank under the Office of the President, was tasked to formulate plans and programs necessary for the rehabilitation, recovery, and development of the affected areas in consultation and coordination with all government agencies, international development partners, nongovernmental organizations and the private sector.

Creating a Comprehensive Rehabilitation and Recovery Plan

Due to the massive destruction and social impacts brought about by Yolanda, the humanitarian emergency phase lasted longer than usual making recovery planning activities take a back seat. There were several stages before a comprehensive recovery plan was finally approved by the government. The following are the activities undertaken for recovery planning as documented by The National Disaster Risk Reduction and Management Council.

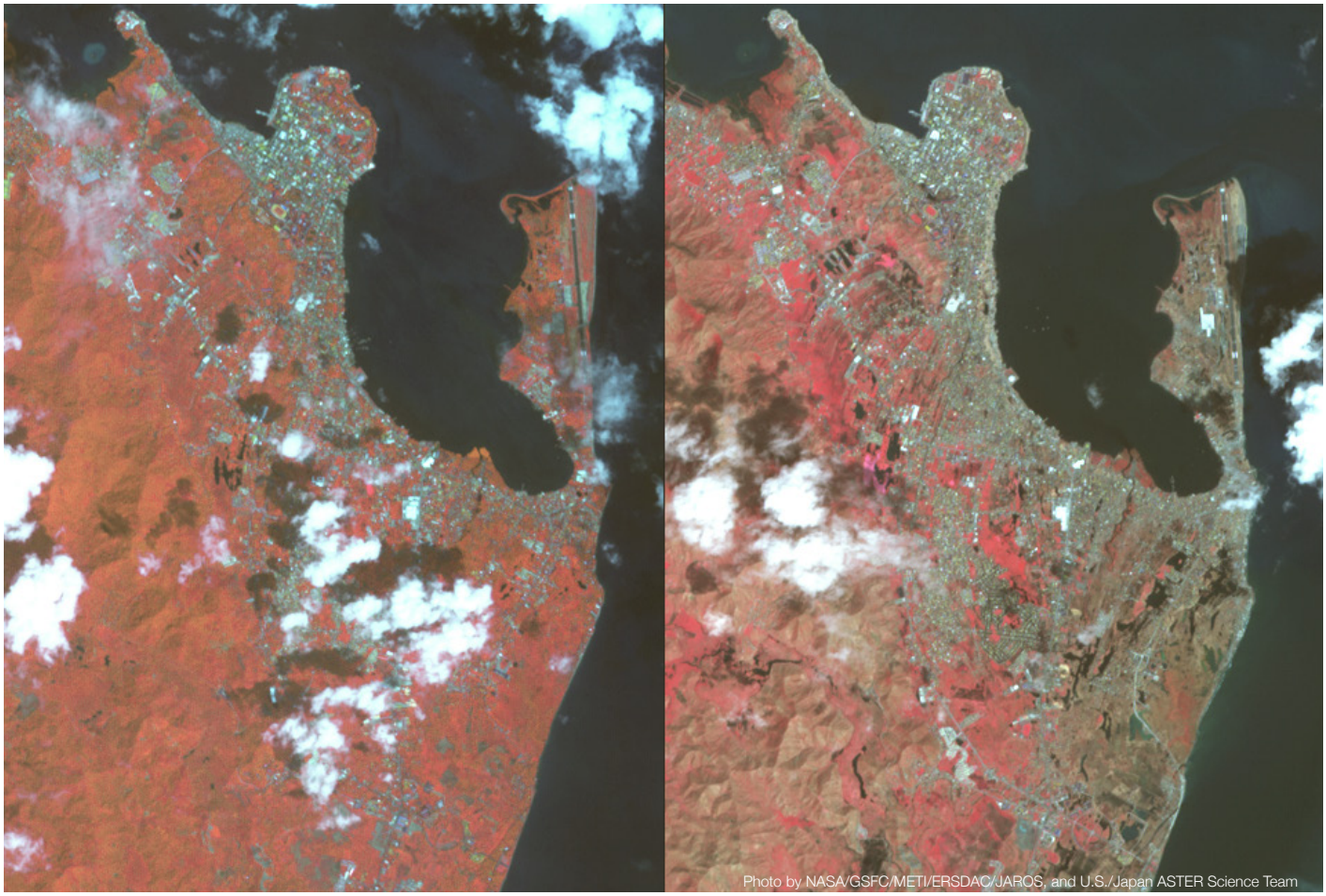
Reconstruction Assistance on Yolanda: Days after Yolanda devastated the Central Visayas, the National Economic Development Authority, as the vice chair for recovery and rehabilitation, started a series of damage and needs assessments in consultation with other line agencies. Reconstruction Assistance on Yolanda was the first attempt to provide a basis for the longer-term interventions of the government, the international development partners and the private sector.

Post-disaster needs assessment: To further validate the recovery needs, the Office of Civil Defense led a multidisciplinary team with representatives from various sector agencies, local governments, and international development partners, which assessed the damages, losses and impacts caused by Yolanda. The post-disaster needs assessment, which started in early January 2014, covered the broad sector of infrastructure as well as productive, social, and cross-sectoral concerns focusing on the most severely affected 50 kilometer radius of the typhoon's path and other hard-hit areas. The estimated damages, losses and the corresponding needs – including the human recovery needs – were the basis of the proposed framework and the list of priority projects for recovery and reconstruction.

Reconstruction Assistance on Yolanda – Implementation for Results: Taking off from the Reconstruction Assistance on Yolanda and the results of the post-disaster needs assessment, and adopting the *build back better* -principle, the Implementation for Results document outlined the framework for recovery, and the planning, implementation, and policy actions in the four priority result areas of the framework – livelihoods and business development; housing and resettlement; social services; and physical infrastructure. Short- and medium-term strategies, policies, and programs, and projects for rehabilitation and reconstruction included sustainable land-use, housing repair and reconstruction, business resumption and economic redevelopment, social sector response, infrastructure restoration, and mitigation.

The Comprehensive Rehabilitation and Recovery Plan: Based on the above-mentioned documents, the Office of the Presidential Assistant for Rehabilitation and Recovery, in coordination with the other agencies and international and local development partners, drafted the Comprehensive Rehabilitation and Recovery Plan, which finally provided the overarching policy framework and outlined the government's commitment to implement over 25,000 disaster rehabilitation- and recovery-specific programs, projects, and activities in areas affected by Yolanda.

The aim of the plan is to *build back better* houses and infrastructure that are necessary to restore livelihoods and sustain economic and social activities, and increase the resilience of communities to cope with any hazards in the future. Key features of the plan include the institutional processes for the engagement and coordination of various nongovernmental organizations, private sector companies, international donors, and international aid agencies. The plan is also complemented and supplemented by



Before and after *On 8 November 2013, Typhoon Yolanda swept through the Philippines, leaving widespread destruction in its path. This pair of before-after NASA satellite images are of the city of Tacloban, one of the worst-affected regions. Vegetation is depicted in shades of red, bare earth is brown, and urban areas are blue-gray. The 'after' image shows large areas denuded of vegetation, while the typhoon's wind and waves flattened buildings. Comprehensive post-disaster assessments were conducted after the typhoon as an essential part of the reconstruction process.*

the rehabilitation and recovery plans prepared at the province- and city-levels with details on the modalities of implementation by the government, as well as with the recovery efforts of the nongovernmental sector, which will support the implementation of projects in education, health, housing, and livelihood.

Improved capacity to prepare for a mega disaster

The post-disaster recovery efforts of the government of the Philippines may have taken a tedious process, but the government was able to ensure that the proper assessment, planning and implementation arrangements are in place. The processes that the government has undertaken were not based on knee-jerk solutions but on strategic perspectives balancing the economic and social needs in accordance with the country's overall development plan.

It is a fact that the Philippines and its communities are still exposed to natural hazards in varying degrees and many more may be exposed to new, stronger ones. But the lessons learned from Yolanda have given the country and its people a new perspective on how to identify hazards, assess risks, and properly prepare for, respond to and recover from a mega disaster. If the impact of the succeeding typhoons in 2014 can be indicators of the lessons learned from Yolanda, the country's efforts can be considered successful. ■

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An experienced post-disaster assessment and recovery practitioner in the Philippines and the Asian region, Mr. Emmanuel C. Torrente is currently Disaster Assessment and Recovery Advisor at ADPC.

Measuring the social impacts of a disaster: capacity needs and gaps

An effective approach to social recovery requires an in-depth analysis of the disaster's impact on food security, poverty, health, and livelihoods.

THE STRENGTHENING OF DISASTER RECOVERY FRAMEWORKS and actions based on information of social impacts is hindered by two factors. The first one is a straightforward capacity issue. There are insufficient numbers of social and human development experts working in the field of disaster recovery. More experts are needed to utilize the data that is derived from the assessments following disaster events to conduct social impact analyses. Experts who are able not only to identify the social impacts of an event in a given context, but also to convey the results of the analysis to policymakers need to be fully integrated into assessment and recovery teams.

The second gap is more complex. It involves a reorientation of technocrats and policymakers to enable the design and delivery of recovery frameworks, placing social recovery high on the agenda and addressing it with the same vigour as infrastructure recovery or economic stabilization and recovery measures.

Let us deal with the first gap. Social scientists have only recently entered the field of disaster assessment – we have earlier been cocooned in the area of humanitarian relief. The disaster assessment field has been dominated by engineers, economists and policymakers at all levels. Although it is the human dimension of disasters that makes the news, it is the rebuilding of bridges and roads that gets the money.

Re-building human lives is a far more difficult, complex and long-term process. In the final analysis it may not require the same levels of expenditure as rebuilding infrastructure, but it may require more will. Roads and bridges can take a few months or years to rebuild, human lives a generation or two.

> "Roads and bridges can take a few months or years to rebuild, human lives a generation or two."

Measures of well-being

In seeking to build an index that would monitor the progress of human development, the United Nations chose key measures of well-being: education, a decent standard of living (or income), health, and safety. The United Nations

Rebuilding livelihoods Women and men taking the initiative to rebuild

Development Programme in its 2014 Human Development Report, recognized that structural factors and persistent human vulnerability must be addressed if human development is to be achieved.

Many countries do not have the full set of statistics necessary to monitor the extent of human development on an annual basis, as social statistics lag considerably behind the economic statistics – although great strides have been made to bring social statistics up-to-date. When a disaster occurs, it may be difficult to ascertain the extent of harm that has been done to human development in an equally accurate manner as the economic state of the country can be measured. This can lead to a less precise analysis of the social impacts.

Data for social impact analysis

The social impact analyst has to be able to make the

their livelihoods following the earthquake of January 2010 in Haiti.

best use of the available baseline data within the country to make sense of the social issues that have arisen as a result of the disaster. The concept of impact speaks to the consequences of the effects of an event: such consequences may manifest themselves in the short-, medium- or long-term. Impact analysis is based on knowledge and an examination of the event's effects. It is a gap analysis of the pre- and post-disaster situation taking into account a nation's own development goals, and it must be grounded on a consultative process.

The data may be found in the poverty studies, household surveys, labor force statistics, surveys of informal workers, national reports on the status and situation of women and men, girls and boys, multi-dimensional poverty surveys, multiple indicator cluster surveys, data that address exclusion and inequalities, or other social data that exists at country level.

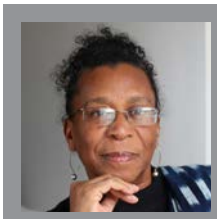
After reviewing the effects of a disaster on the various sectors of the society, as presented through the details of the assessment, the social scientist must be able to distil the data and analyze the impact of the event on the population as a whole. Only then can recommendations for recovery be made.

From short-term recovery to resilience

Recommendations that will reduce human vulnerability and build resilience over time are essential. I would argue that four measures may be considered as key, namely the impact of the disaster on food security; the proportion of the population that may fall deeper into poverty as a result of the disaster; health and well-being, including mental health; and livelihoods. These measures must be disaggregated by age, sex, ethnicity, geographic location and other key demographic particulars.

The world is comfortable with short-term recovery measures in the social sector. In the aftermath of a disaster, we often hear of cash-for-work programs or cash grants to support household consumption for a specific period, for instance four to six weeks. These are important measures, but we do not hear enough about measures that build resilience and knowledge, both formally and informally, and measures that strengthen livelihoods and reduce poverty, build inclusion, reduce inequalities and generally make life safe for women, men, and children, and the communities in which they must live.

Once these measures become commonplace, we will know that we have met the needs for strengthened analysis of social impacts in disaster recovery. ■



Dr. Asha Kambon is a researcher and public policy expert with over forty years of experience in the field of development at the national, regional and international levels. She concluded an international civil service career as the Regional Adviser for Disaster Risk Reduction and Small Island Developing States with the Economic Commission for Latin America and the Caribbean in 2011, and continues to work as an independent consultant.

Building institutional capacity for assessment and recovery

ADPC helps strengthen the Asian countries' institutional arrangements and capacities for post-disaster needs assessment, recovery planning, and implementation.

After the disaster relief phase, accurate and timely assessment of socio-economic and environmental effects is essential, in order for reconstruction and recovery needs to be correctly identified, analyzed, and prioritized. Reconstruction and recovery planning, budgeting, implementation, and monitoring and evaluation are undertaken in the following months and years after the relief phase has ended.

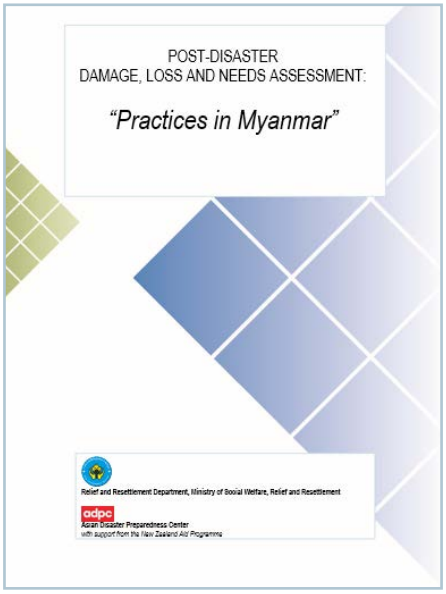
While such post-disaster activities require actions from multiple stakeholders, it is increasingly recognized that the local government – national, provincial, and district – have primary coordination and implementation roles as well as responsibilities within institutional and legislative arrangements.

Asian Disaster Preparedness Center (ADPC) therefore works closely with national and sub-national governments, and has most recently helped strengthen institutional arrangements and capacities for post-disaster systems in Myanmar, Philippines and Vietnam with support from the New Zealand Aid Programme. This article will illustrate ADPC's approach to post-disaster needs arrangements through the Myanmar case study.

Building cross-sector capacities for post-disaster needs assessment in Myanmar

In 2013, in continuation of its long-standing support to Myanmar in disaster risk reduction, ADPC in cooperation with the Relief and Resettlement Department of Myanmar initiated a review of the existing institutional and legislative arrangements and experiences in post-disaster needs assessment and recovery in the country – a key example being the recovery after the devastating Cyclone Nargis in 2008. The review included results from consultations with key stakeholders such as the Central Statistical Organization that is mandated to coordinate post-disaster assessments, other government departments, and the United Nations agencies in Myanmar.

Based on the results of the review, the Department with support from ADPC developed a strategy to strengthen the post-disaster system in Myanmar, including fifteen sector-specific technical guidelines based on an accepted international methodology, which is promoted by the World Bank, the United Nations, and the European Union. The tools were adapted to the specific context in Myanmar – essential if the post-disaster systems are to be applied and serve the needs of the country.



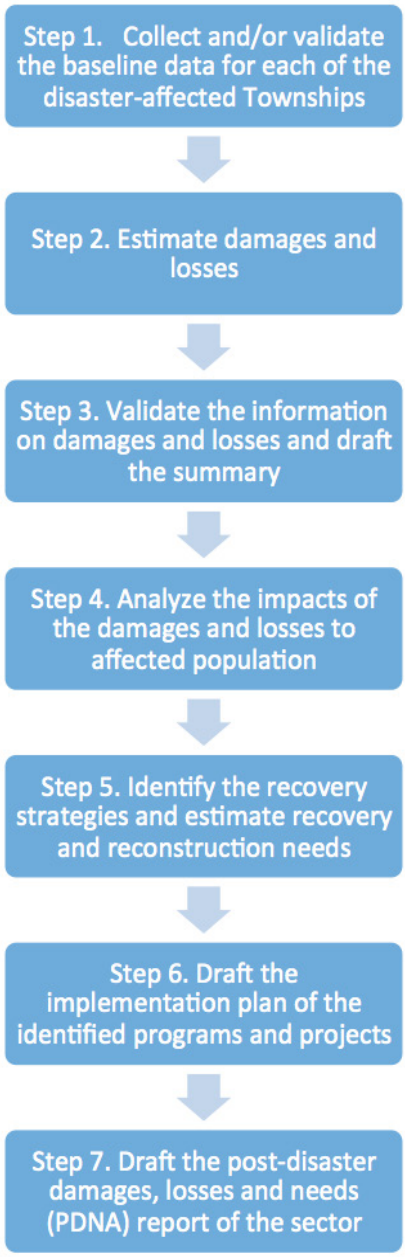
Post-disaster systems
The review of the existing institutional and legislative arrangements and experiences in post-disaster needs assessment and recovery in Myanmar served as a basis for the strengthening of the post-disaster systems and capacities.

ADPC builds country capacities for post-disaster activities in Asia

ADPC is the implementing agency for a regional multi-year program entitled *Strengthening Disaster Risk Reduction Capacity in Selected ASEAN Countries*, which is funded and technically supported by the New Zealand Aid Programme.

Running from 2013 until 2015, the program increases the resilience of selected ASEAN countries through strengthened disaster risk reduction systems and decision-support tools at national and sub-national levels.

The project focuses on improving the use of risk information in Lao PDR and Myanmar, and enhancing preparedness for the recovery phase of disasters in Myanmar, Philippines, and Vietnam.



The stages of PDNA *Seven steps to conduct a timely and accurate post-disaster needs assessment in Myanmar.*

The sector guidelines are specifically targeted to officials in the relevant sectors in Myanmar's existing governance arrangements. For example, the education guidelines are for the Ministry of Education and its departments, while the transport guidelines are designed for the Ministries of Transport, Rail Transportation, and Construction. Each guideline includes key concepts, and takes the user step-by-step through the assessment process. The integration between the assessment and recovery planning in each sector is specifically addressed, as well as the multi-sector coordination between the site of the disaster and the national level in the country's capital city, Nay Pyi Taw.

Creating a pool of experts *The Relief and Resettlement Department and ADPC trained local officials in the cyclone-prone Ayeyarwaddy Region of Myanmar in December 2014 to create a pool of experts in post-disaster needs assessment from a range of government sectors.*

The draft technical guidelines were distributed to key responsible sector ministries, and revised following feedback and further consultations. Based on the agreed contents of the guidelines, ADPC and the Relief and Resettlement Department developed a short training course with the aim "to create a pool of experts on post-disaster needs assessment from a range of government sectors." In late 2014, the Department and ADPC delivered training courses for officials of the national government and for local officials in the Ayeyarwaddy Region – an area regularly exposed to powerful cyclones. The training courses are linked to the government's wider disaster management training program, and the country has the capacity to deliver more courses in the future.

If countries are to better recover and reconstruct after major disasters, it is essential that the institutional arrangements and capacities are in place before the disaster hits. And if governments are to take lead in the process, then government officials from all significant sectors, at all levels – from national to local – must have sufficient technical and functional capacities. ■

Gregory Pearn serves as Project Manager in the Disaster Risk Management Systems Department at ADPC. His work focuses on collaborating with governments and partners in Asia to strengthen post-disaster systems and capacities.

Recovery first:
Why it is imperative for resilience-building?

Stimulated by the continual friction of reality clashing with theory in post-disaster operations, and supported by after-action lessons-learned exercises, the understanding of recovery has substantially evolved.

Over the last 40 years, the objectives, scope, timeline and stakeholders of disaster recovery have significantly expanded. The terminology has evolved from recovery depicted solely as rehabilitation and reconstruction to early recovery, sustainable recovery, and resilient recovery.

From the earliest texts and well into the last years of the International Decade for Natural Disaster Reduction (1990s), recovery was conceived as a set of programs and activities that got underway sometime after the relief "phase" started winding down. Disaster management graphics from that period visualized disaster activities either linearly, as a circle, or as displayed in *Figure 1 (p. 30)*. The figure reflects the assumption that the primary focus on *Day One* is on relief and, thus, recovery starts sometime "down the line." The relief and recovery lines cross, perhaps as late as six weeks after the disaster. In this model, preparedness is the last set of activities and its purpose is to improve relief provision for the next disaster.

Donors mirrored this same perspective. Relief was funded in the "emergency house" and recovery in the "development house." Recovery operations resulted in rebuilding of not only homes, livelihoods and infrastructure, but, regrettably, also disaster risk. Attempts to get rid of the "unsafe old" and replace with "safer new" – if even allowed by reconstruction policy – more often than not depended on insufficient cultural knowledge and unfamiliar technology. Disaster-affected persons were viewed as *needy victims*, not *competent survivors* with assets and capacities.

Early recovery

Having learned the lessons of that era, new disaster management policies and operations called for community capacity-development, risk reduction, and locally sensitive and planned recovery including attempts at pre-disaster recovery planning.

Nevertheless, some hangovers remained, for example, "spontaneous recovery" by survivors was acknowledged more as a risk-rebuilding activity than a demonstration of capacity. Into this paradigm, Humanitarian Reform (2005) was born and *early recovery* was made doctrine. Still seen primarily through the "relief lens," early recovery was defined as recovery that starts in the "humanitarian phase." The need to start recovery on *Day One* of the disaster was largely exhorted but rarely practiced by providers. The calls for *build back better* were right; however disagreements on defining "better" delayed and often denied recovery. Reviews of the 2004 Indian Ocean Tsunami recovery make this point.

Recovery first

It's time to adjust our thinking again. Observed recovery realities and the emphasis on resilience-building outcomes provide a compelling rationale for reframing the post-disaster operations from relief-oriented to recovery-driven. Experiences in the field suggest that in post-disaster situations, recovery begins first, even before relief does. When viewed through the eyes of the survivor – the primary and most critical stakeholder – recovery starts as soon as the ground stops shaking, the winds die down, or the rain ceases (refer to Figure 2). After rescuing family, friends and neighbors, survivors take stock of what's left. Their primary emphasis is on assets, not needs. Early arriving relief providers after Typhoon Haiyan (2013) in the Philippines were greeted by survivors rebuilding their homes and functioning market traders. Contrary to the traditional view of the relief and recovery relationship (Figure 1), in the survivors' eyes, recovery is the first priority, building quickly, and relief never catches up – increasing perhaps, but tapering down quickly. The lines never cross.

Given this reality, relief should supplement recovery, not the other way around. A major goal of relief should be to capacitate recovery processes by filling in gaps in local systems and structures, not creating parallel structures and dependency on international assistance. For example, following the 2010 Pakistan floods, medical support included volunteers, equipment, and resources to strengthen existing medical facilities rather than creating parallel transient medical structures and systems.

Resilience imperative for *recovery first*

If the idea is to use the post-disaster window of opportunity to build disaster resilience, a recovery-focused and survivor-rooted process is essential. However, adopting this approach requires not only changing our lens but also our actions. For example, pre-disaster planning must seriously consider how recovery should proceed. Assessments should shift from pure accounting of loss and needs to capturing survivor's perspectives of assets, and perceived opportunities including those of risk reduction. Rapid assistance should be prioritized to supplement recovery: for example, cash transfers whether conditional or unconditional to supplement survivors' assets, sourcing assistance (goods and services) from local markets, and supporting the private sector to enable the recovery of livelihoods. Logistics assessments should also support market recovery, not just relief supply chains.

Policies of governments and humanitarian actors for funding

Through the eyes of a survivor *Experiences in the field suggest that in post-disaster situations, recovery begins first, even before relief does. When viewed through the eyes of the survivor – the primary and most critical stakeholder – recovery starts as soon as the ground stops shaking, the winds die down, or the rain ceases.*

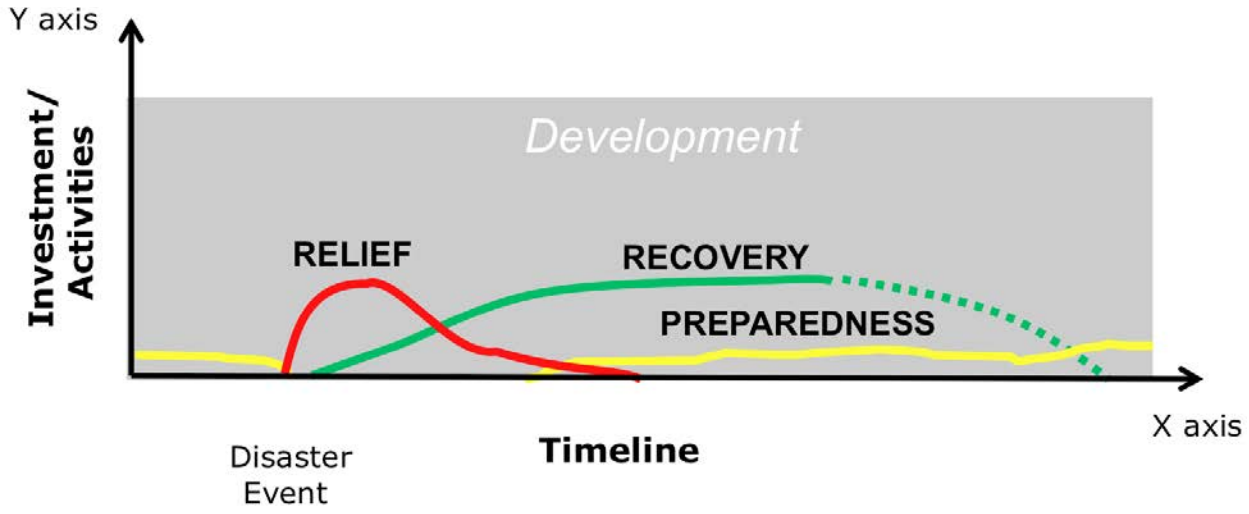


Figure 1. *Traditional understanding of the relief–recovery relationship.*

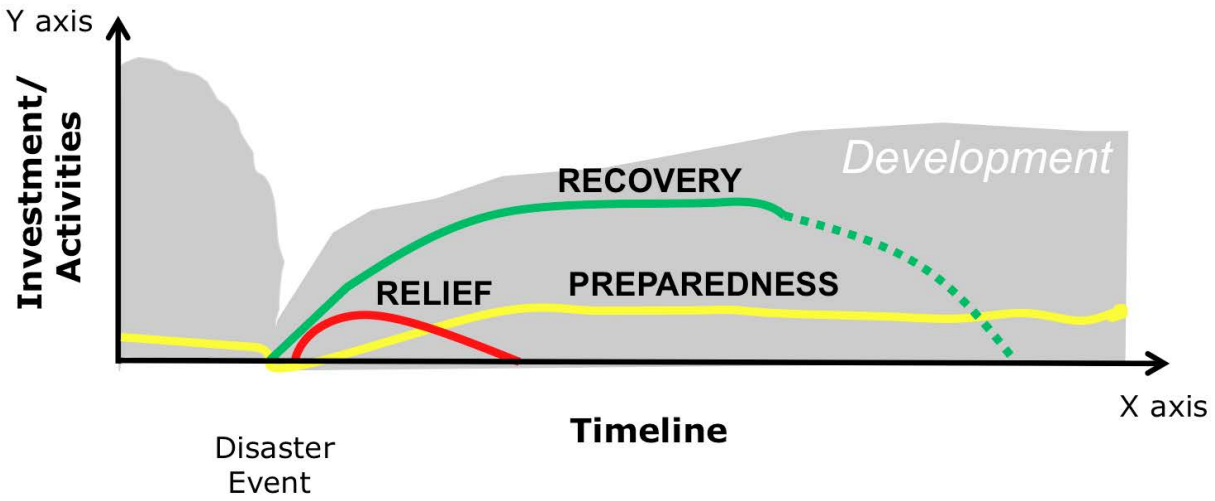


Figure 2. *The relief–recovery relationship as addressed by the recovery first approach.*

post-disaster operations should be recovery-outcome oriented. The balance between relief- and recovery-funding will need to be reconfigured so recovery activities have a chance to attract sufficient funding. Starting disaster response (eventually we will see "response" as composing both recovery and relief interventions) with a thorough response options analysis should become the norm, with "strengthening disaster resilience" as a fundamental response selection criterion alongside "build back better" and "do no harm."

The rationale for a *recovery first* -perspective is strengthening with every passing disaster experience, because it is more likely to attack root causes of vulnerabilities than its symptoms. However, *recovery first* is not without consequences. It requires changes in humanitarian funding policies and organizational personnel that are largely relief-focused. It also involves tough dialogues with and hard choices for communities, for example, the choice of living in a disrupted state longer to significantly reduce the likelihood, frequency and consequences of future disasters. Failure to at least offer the choice will guarantee a repeat performance. The bottom line is that the *recovery first* -approach will put survivors in the driver's seat as *active* stakeholders in defining, executing and monitoring their recovery and, in the process, building their resilience to future disasters. ■

Stephen Webster is a team, organization and community development consultant with 30 years of experience in disaster management. In addition to his work in recovery and risk reduction he has significant experiences in response coordination.

Shivani Khanna is a development and disaster risk reduction practitioner with over 13 years of experience in the areas of community participation, capacity development, strategy, program and advocacy design, and action reviews and evaluations.

Resilient recovery, more than rapid reconstruction

In order to contribute to the development of safe and resilient communities, recovery activities need to address underlying vulnerabilities.

THE IDEA OF INCLUDING VULNERABILITY REDUCTION MEASURES in response and recovery activities was brought forward for the first time in the aftermath of the 2004 Indian Ocean Tsunami. During that time, the humanitarian community was introduced to the concept of "building back better," which is based on the assumption that disasters provide an opportunity for re-development. Nowadays, the importance of including disaster risk reduction measures in recovery is widely acknowledged. The Asia-Pacific input document for the Sendai Framework for Disaster Risk Reduction stated that risk-sensitive development and "building back better" are key aspects in strengthening overall resilience during recovery and reconstruction. However, despite the widespread acknowledgement, activities framed as "building back better" often merely focus on the speed in which reconstruction takes place, and the degree of coordination and cooperation between different actors.

In order for recovery to contribute to resilience-building, a more comprehensive approach to recovery is needed. Recovery should not be measured in speed or in the degree of coordination between various actors, but in the successfulness of the activities in decreasing underlying vulnerabilities. An interesting example that shows the importance of a comprehensive approach to recovery was the establishment of a coastal buffer zone in Sri Lanka. After the Indian Ocean Tsunami in December 2004, the Government of Sri Lanka established a "no-reconstruction" zone next to the coastline, banning any reconstruction activities in the area. While establishing this zone seemed to be an effective way of reducing exposure to disaster risk, the decision to have such a zone incited massive relocation of the affected population, and resulted in social, economic and environmental problems that severely undermined the well-being of the people and increased underlying vulnerabilities to natural hazards.

Post-disaster recovery activities that aim to build back better should be based on a detailed analysis of the components of vulnerability – including social, economic and environmental aspects – in a specific area. Such an analysis will allow governments and humanitarian actors to make well-informed decisions about the measures that will be needed for recovery to effectively decrease vulnerability in the short- and long-run. Only when recovery activities address not only the immediate needs of the affected population, but also the underlying vulnerabilities, will they be able to contribute to the development of safe and resilient communities. ■

References:

Ingram, J.C. et al. (2006): 'Post-disaster recovery dilemmas: challenges in balancing short-term and long-term needs for vulnerability reduction.' *Environ. Sci. Policy* (2006). DOI: 10.1016/j.envsci.2006.07.006.

Mareike Bentfeld serves as Project Coordinator in the Disaster Risk Management Systems Department at ADPC. She works with governments and other partners in Asia to strengthen their capacities in local-level disaster risk reduction.

Photo by Anton Gzodikov / Shutterstock.com

Underlying vulnerabilities *Recovery should not be measured in speed or in the degree of coordination between various actors, but in the successfulness of the activities in decreasing underlying vulnerabilities.*

Risk insurance: addressing loss and damage

Risk insurance has to overcome several limitations before it can serve as an effective tool for disaster risk reduction and climate change adaptation.

CLIMATE CHANGE HAS BROUGHT A NEW DIMENSION TO HUMAN development, and stakeholders across the broad spectrum of development have to address climate change concerns in their developmental efforts. The assumed benefits of insurance in the management of both climatic and non-climatic risks have attracted climate change adaptation and disaster risk reduction practitioners to consider it as an important risk management tool. Despite the efforts by various stakeholders, the communities whose livelihoods are most vulnerable to climatic vagaries have often not been reached by insurance.

Several bottlenecks remain unaddressed, such as the high cost of insurance relative to ability to pay, poor overall progress in risk mitigation, lack of awareness of risk insurance in communities, and lack of an enabling policy environment. From a deeper perspective, there is a lack of robust evidence as to what climate change adaptation and disaster risk reduction benefits accrue from risk insurance and how they compare with other risk management opportunities that exist or can be developed as an alternative to risk insurance.

There is a lack of clear assessment and recognition of insurance's benefits and costs in terms of disaster risk reduction, climate change adaptation and sustainable development in existing research. Specifically, there is no evidence to suggest that the current form of insurance provides long-term risk reduction. To the contrary, the ways the insurance programs are designed and implemented today do not provide the full potential benefits that risk insurance offers.

Climate change adaptation falling short of expectations

The global community has recognized that our efforts will fall short of addressing climate change impacts and that there will still be considerable losses and damages irrespective of what we do. The concept of *loss and damage* refers to the residual losses and damages associated with climate change after all mitigation and adaptation activities are implemented. Though the issue of loss and damage received attention at the sixteenth session of the Conference of Parties in Cancun in 2010, leading to its inclusion in Cancun Agreements, scientists have long warned about the possibility of residual damages from climate change.

The Fourth Assessment Report of the Intergovernmental Panel on Climate Change released in 2007 has clearly identified the reasons why climate change adaptation, as we know it today, may fall short of expectations. Island countries have expressed their concerns on residual losses and damages as early as in 2000s. The reasons for the loss and damage could include the inability to implement adaptation actions in the degree and timeliness needed, policy imperfections that may counter adaptation practices, limited understanding of the effectiveness of known options, and the inability of some adaptation practices to last longer. Barriers such as limited technical capacity to design and implement adaptation projects, limited financing, and limited adaptation options further contribute to the problem.

A need to address non-economic loss and damages

With regard to promoting risk insurance to address losses and damages, there is only a certain limit to which insurance can help and hence it cannot be treated as a silver bullet. *Figure 1* shows the elements in insurance design and implementation that pose limitations leading to a cycle of risk perpetuation rather than risk reduction. This occurs more often in insurance product cases that are designed to address the risks of the most vulnerable,

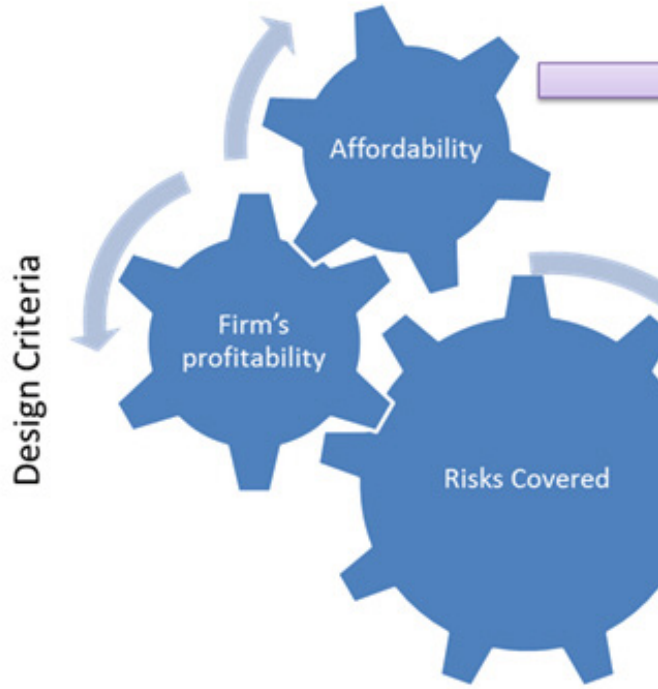
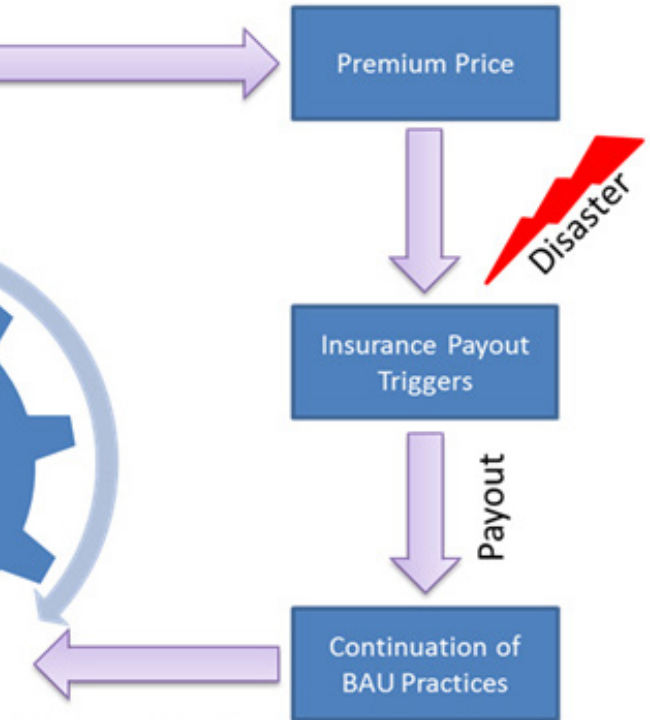


Figure 1 *There is a need for the current risk insurance regime to discourage*

Photo by ADPC

Inadequate insurance coverage *The non-economic losses and damages that could account for as much as 50 percent or more of the total damages of a natural disaster, are often not covered by the insurance products.*



e risk perpetuation by addressing insurance design and motivational issues.

including farmers and poor people in rural areas. First and foremost, today's risk insurance products targeting the agriculture sector do not convey the proper risk price signal and suffer from moral hazard and adverse selection issues.

The insurance payouts have not led to investments in risk mitigation options and the lack of sufficient incentives has rather led to continuing the business as usual. Insurance contracts have traditionally been designed to address purely the economic losses. However, the non-economic loss and damages that could account for as much as 50 percent or more of the total damages of a natural disaster, especially in the case of developing countries, are often not covered by the insurance products. There has been some advancement in measuring the non-economic loss and damages including post-traumatic stress disorders, loss of social capital, ecosystem health and services, and loss of cultural heritage. Insurance product designs must take advantage of these advancements and start addressing non-economic loss and damage. Then only the insurance industry can contribute to a holistic risk reduction approach. ■

Reference:
1. Prabhakar, S.V.R.K. et al. (2015): 'Effectiveness of Insurance for Disaster Risk Reduction and Climate Change Adaptation: Challenges and Opportunities.' *IGES Research Report*, 2014-4. Hayama, Japan: Institute for Global Environmental Strategies.

S.V.R.K. Prabhakar serves as Senior Policy Researcher and Task Manager (Adaptation) at the Institute for Global Environmental Strategies, Japan.

In Brief

Southeast Asia's priority needs in recovery

ADPC in cooperation with the United Nations Development Programme's (UNDP) Bangkok Regional Hub organized a high-level regional discussion forum *Ready for Recovery: Learning from recent disasters and setting the priority needs for Southeast Asia* on 8–9 December 2014 in Bangkok, Thailand.

Supported by the New Zealand Aid Programme and participated by key government representatives from the ASEAN member countries among other stakeholders, the meeting provided an opportunity for sharing lessons learned and progress in post-disaster recovery since the devastating Indian Ocean Tsunami hit the region in December 2014.

Participants presented and discussed a range of recovery experiences, from both large and small disasters. An important outcome from the forum was a consensus of the need for institutional arrangements and capacity-building for post-disaster needs assessment, leading to resilient recovery.

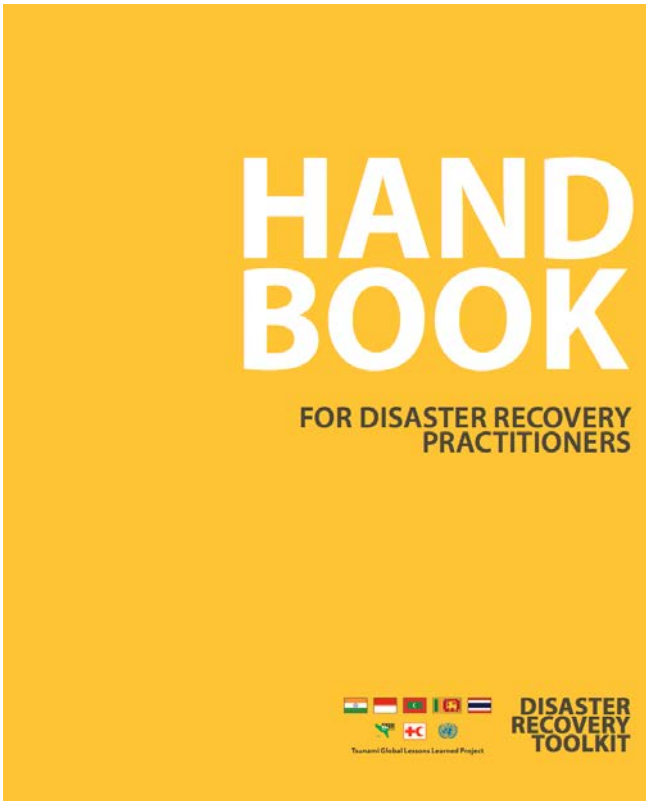
"Disasters continue to strike the region and threaten lives, livelihoods, and human development. When a large disaster occurs, it is essential that we have arrangements and capacities in place to recover and reconstruct," said Mr. Sanny Jegillos, Senior Advisor at UNDP.

A toolkit to support disaster recovery in Asia

The recently launched Disaster Recovery Toolkit provides a how-to guide on developing, implementing and managing complex post-disaster recovery programs. Developed by the Tsunami Global Lessons Learned Project Steering Committee with technical support from ADPC, the toolkit is aimed at practitioners responsible for implementing recovery projects in disaster-stricken areas.

"The toolkit addresses a full range of post-disaster recovery issues, from institutional arrangements to finance mobilization, communication to monitoring and evaluation," said Mr. Shane Wright, Executive Director of ADPC at the toolkit's launch in February 2015 in Indonesia.

The Tsunami Global Lessons Learned Project was created in the aftermath of the Indian Ocean Tsunami of 2004 to ensure the lessons learned from the disaster and other natural hazards in Asia would be captured in an organized manner. The project has earlier resulted in a global lessons learned study and a Discovery Channel documentary tracking the recovery of the region from the tsunami.



READY4RECOVERY

Governments, regional bodies, and development partners in Asia increasingly understand that with better post-disaster institutional arrangements and capacities, recovery can take place both more quickly and effectively. In other words, stakeholders are placing increasing emphasis to be "ready for recovery."

To help realize this goal, Asian Disaster Preparedness Center is supporting countries to prepare for post-disaster needs assessment and recovery:

Adapting agreed international methodologies to country requirements

Supporting processes with practical tools and technical guidelines

Building national and sub-national human and organizational capacities

Providing technical assistance to conduct assessment and recovery

Collaborating with development partners and regional bodies

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www.adpc.net/pdna

Asian Disaster Preparedness Center
SM Tower, 24th Floor 979/69 Paholyothin Road,
Samsen Nai Phayathai, Bangkok 10400 Thailand
Tel: +66 2 298 0682-92
Fax: +66 2 298 0012
E-mail: adpc@adpc.net

www.adpc.net
Asian Disaster Preparedness Center
@ADPCnet